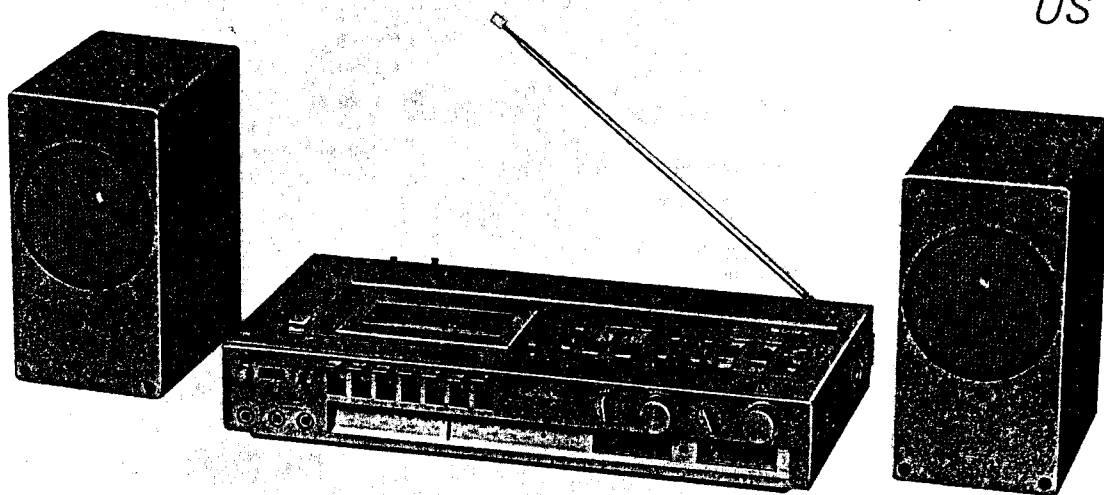


Original

GFS-100

3004
E Model
US Model



FM/AM STEREO CASSETTE-CORDER

SPECIFICATIONS

GENERAL

Power Requirement:	120 V ac, 60 Hz (US model) 110, 120, 220 or 240 V ac, 50/60 Hz (E model) 12 V dc; battery size "D" (IEC Designation R20), 8 pcs 12 V car battery with optional Sony Car Battery Cord DCC-130
Power Consumption:	27 W (E model) 14 W (US model)
Power Output:	8 W x 2 (max.) at dc operation
Dimensions:	Approx. 443 (w) x 78 (h) x 239 (d) mm 17 1/2 (w) x 3 (h) x 9 1/2 (d) inches including projecting parts and controls
Weight:	Approx. 5.84 kg (12 lb 14 oz) with batteries

RADIO SECTION

Antennas:	FM/AM: telescopic antenna external antenna terminals
Frequency Range:	FM: 87.5 — 108 MHz AM: 530 — 1,605 kHz (566 — 187 m)

TAPE RECORDER SECTION

Track:	4-track 2-channel stereo or monaural
Fast Winding Time:	Approx. 1 min. 50 sec. with Sony Cassette C-60
Frequency Response:	50 — 10,000 Hz (with standard cassette, with the TAPE SELECT switch set to NORMAL) 50 — 13,000 Hz (with chromium dioxide cassette, with the TAPE SELECT switch set to CrO ₂) 50 — 13,000 Hz (with Sony Ferri-Chrome Cassette, with the TAPE SELECT switch set to Fe-Cr)
Wow and Flutter:	0.09 % (WRMS)
S/N Ratio:	45 dB
Total Harmonic Distortion:	2.5 %
Battery Life:	In continuous recording with the microphones: Approx. 7 hours with Sony Super Batteries SUM-1S
Inputs:	MICROPHONE (two phone jacks) Sensitivity: 0.22 mV (—71 dB) Impedance: for low impedance microphone

ALL LOCATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY SHADING AND MARK
ELECTRIC SCHEMATIC DIAGRAMS, EXPLODED
VIEWS AND THE PARTS LIST ARE CRITICAL TO
SAFE OPERATION. REPLACE THESE COMPONENTS
WITH SONY PARTS WHOSE PART NUMBERS APPEAR
AS SHOWN IN THE MANUAL OR IN SUPPLEMENTS
PUBLISHED BY SONY.

— Continued on page 2 —

SONY

SERVICE MANUAL

SECTION 1
OUTLINE

LINE IN (two phono jacks)	
Sensitivity:	70 mV (−21 dB)
Impedance:	100 kΩ
PHONO (two phono jacks)	
Sensitivity:	2 mV (−52 dB)
Impedance:	47 kΩ
Output: LINE OUT (two phono jacks)	
Impedance:	10 kΩ or higher
Rated output	0.44 V (−5 dB) at load impedance 100 kΩ
EXT SPEAKER (two external speaker jacks)	
Impedance:	for 8 Ω impedance speakers
HEADPHONES (stereo binaural jack)	
Impedance:	for 8 Ω impedance headphones

SPEAKER SECTION	
System:	10 cm, cone type
	Full range
Impedance:	8 Ω
Frequency Range:	60 – 18,000 Hz
Power Handling	
Capacity:	10 W (nominal), 20 W (max.)
Dimensions:	117 (w) x 216 (h) x 162 (d) mm 4 5/8 (w) x 8 1/2 (h) x 6 3/8 (d) inches
Weight:	2.4 kg (5 lb 5 oz) net, per speaker
	0dB = 0.775V

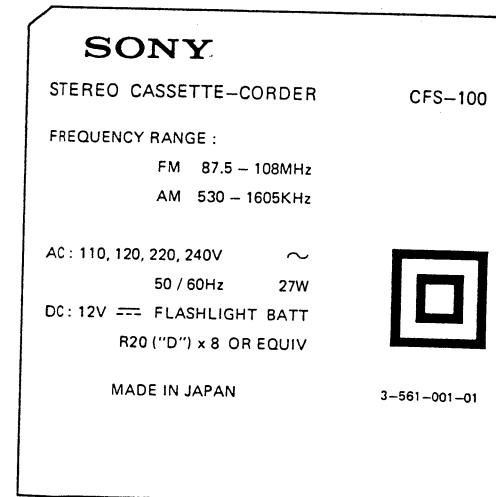
SERVICING NOTE

If the FM front-end is defective, be sure to replace the FM front-end (Part No. 1-463-256-00).

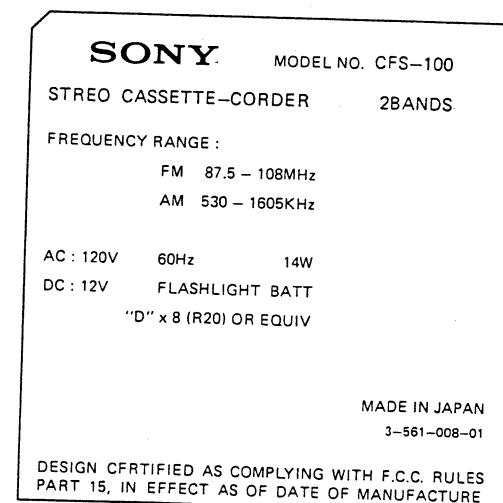
MODEL IDENTIFICATION

— Specification Label —

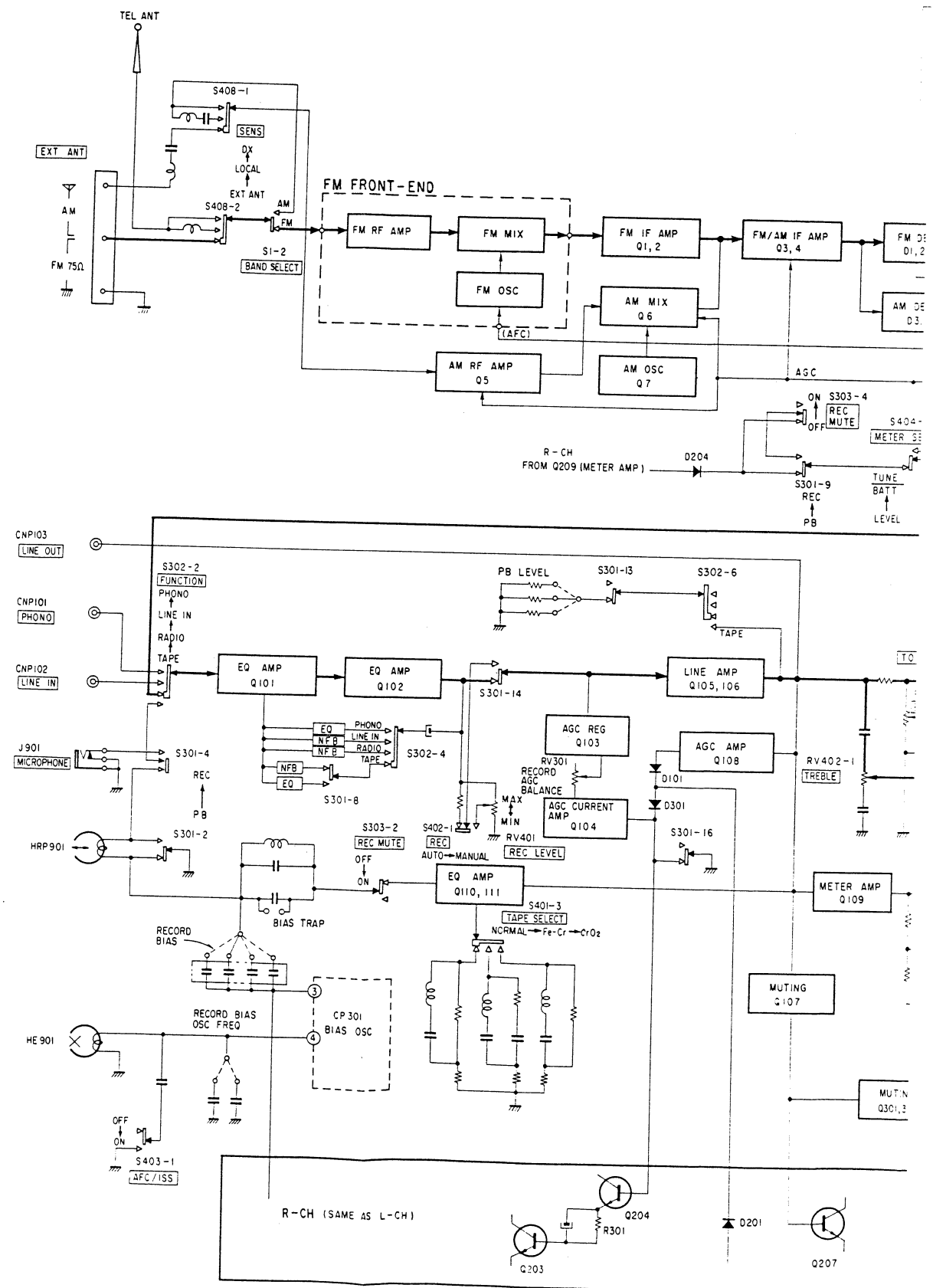
E model



US model



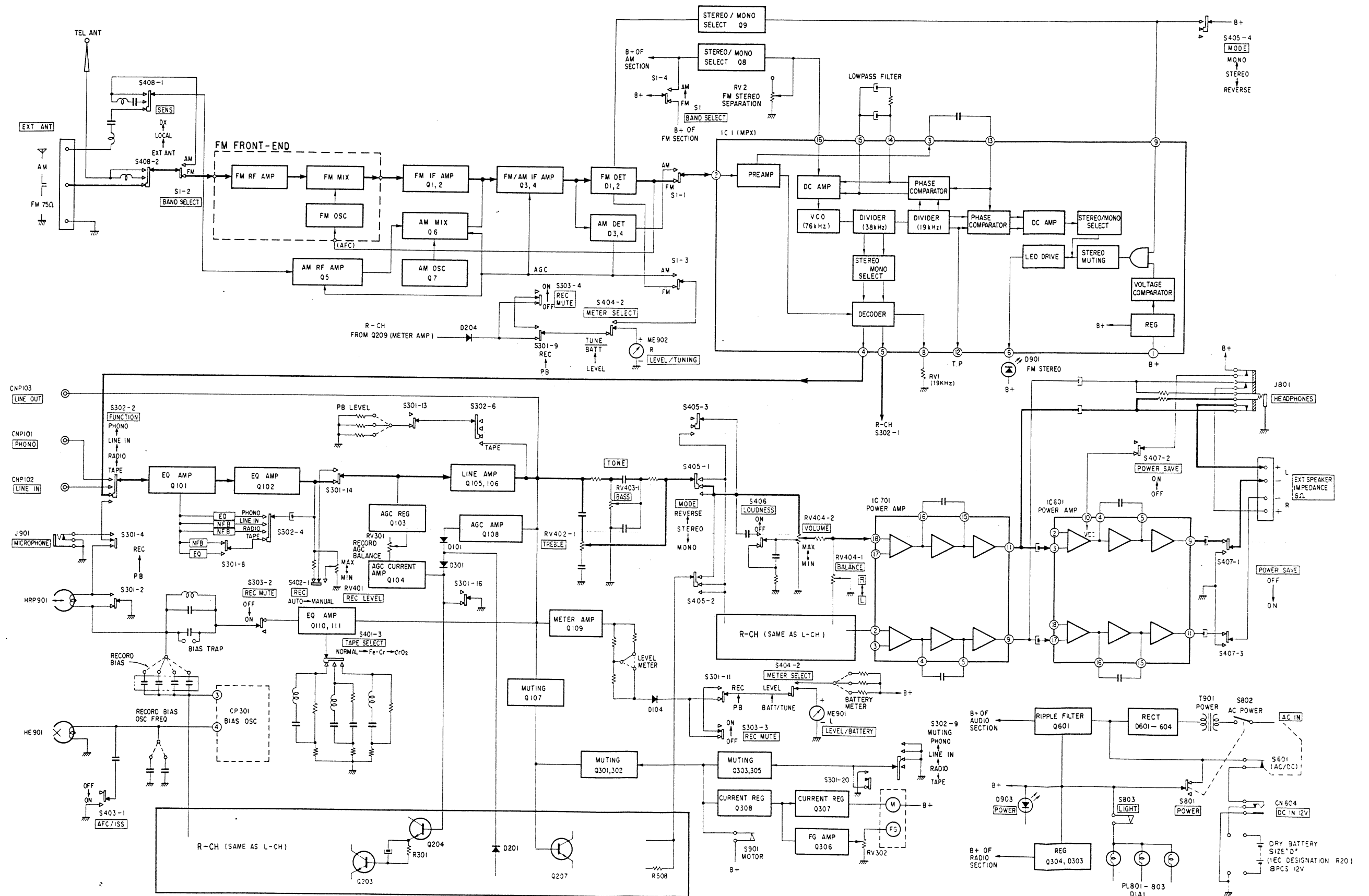
BLOCK DIAGRAM



CFS-100 CFS-100

SECTION 1 OUTLINE

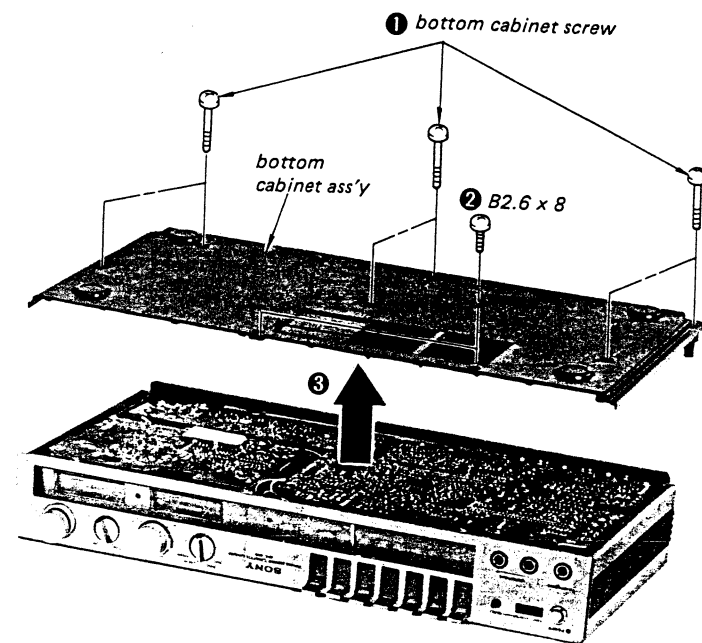
BLOCK DIAGRAM



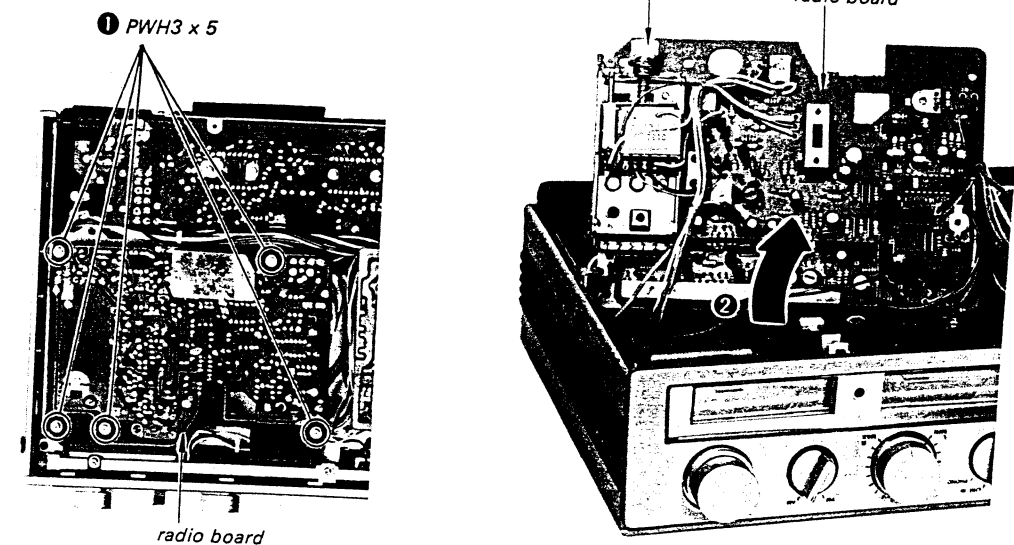
SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

BOTTOM CABINET REMOVAL

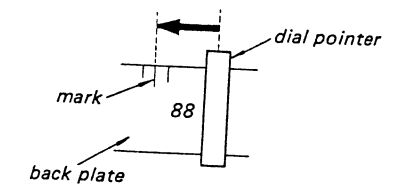


RADIO BOARD REMOVAL

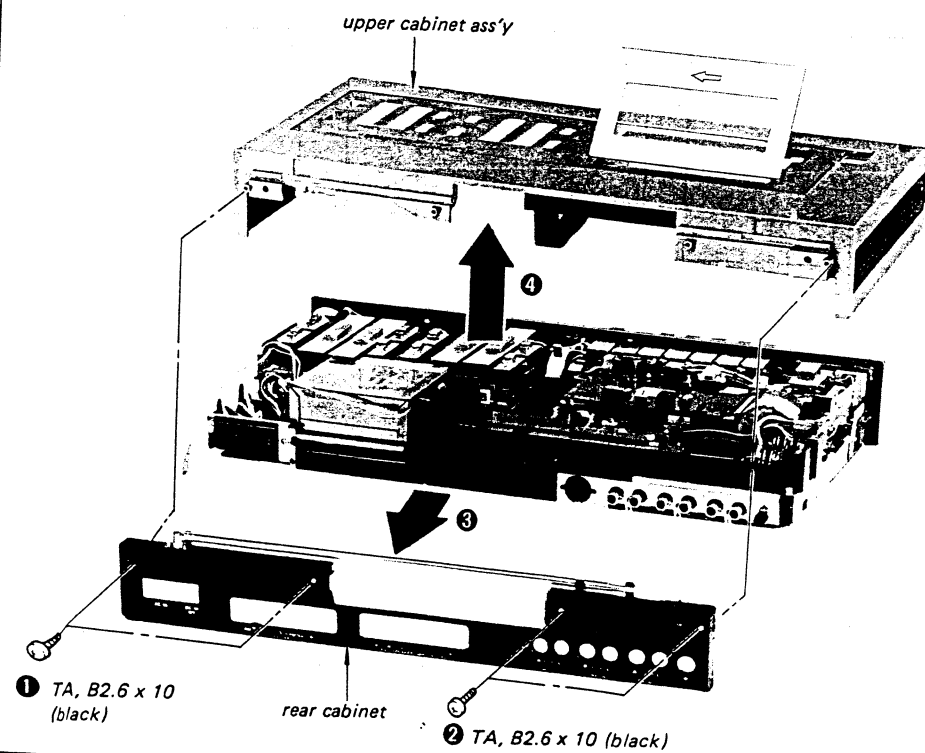


NOTE ON RADIO BOARD REPLACEMENT

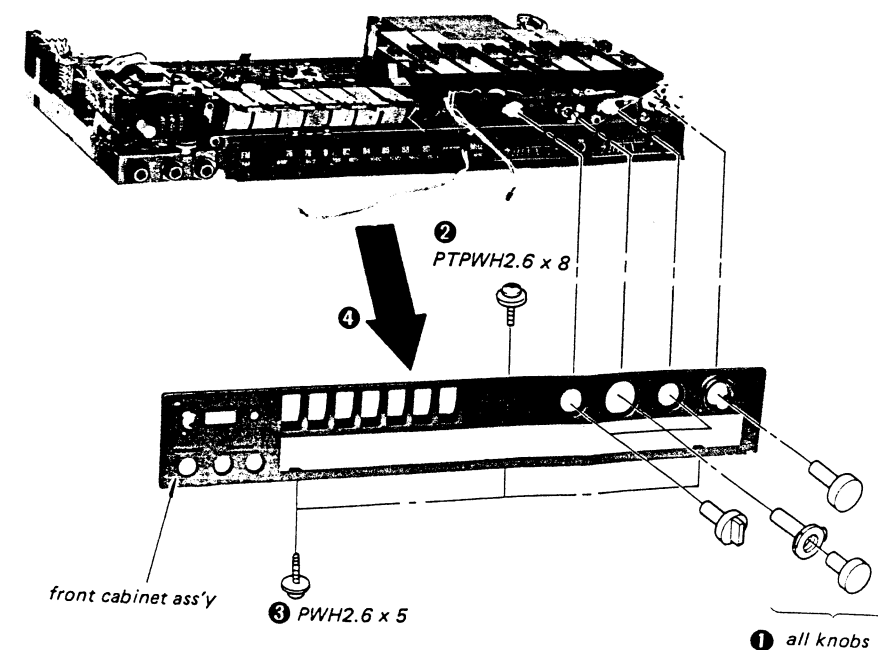
- 1 Turn the VC gear (A) fully counterclockwise.
- 2 Turn the TUNING knob to place the dial pointer on the mark as shown on the right.
- 3 Install the radio board.



UPPER CABINET/REAR CABINET REMOVAL

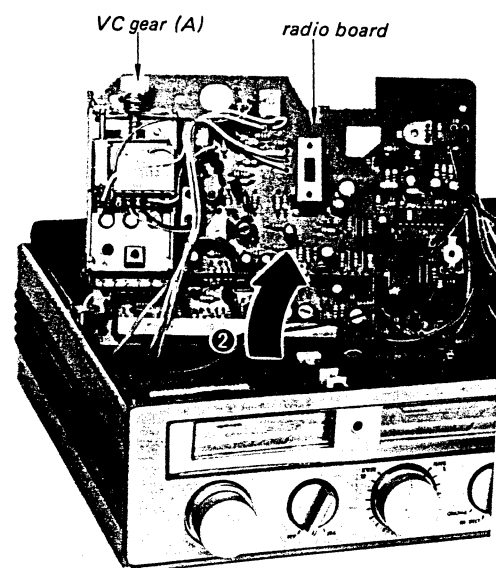
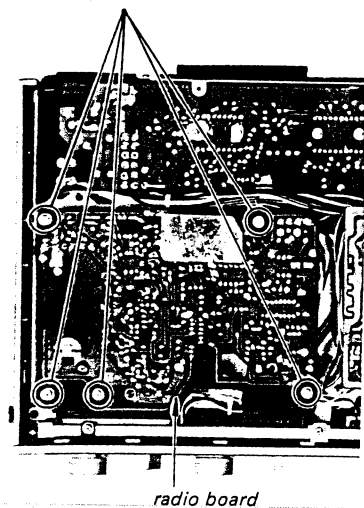


FRONT CABINET REMOVAL



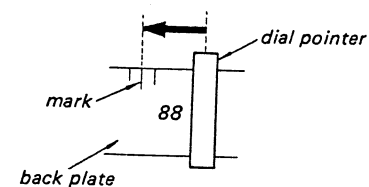
RADIO BOARD REMOVAL

① PWH3 x 5



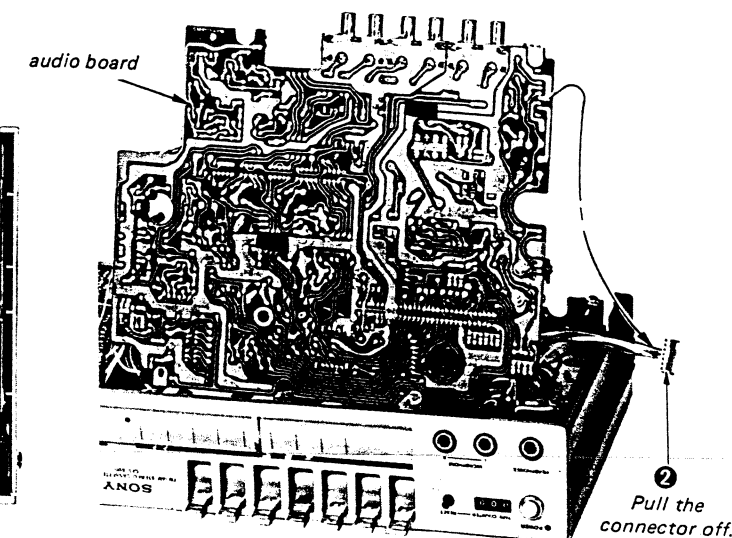
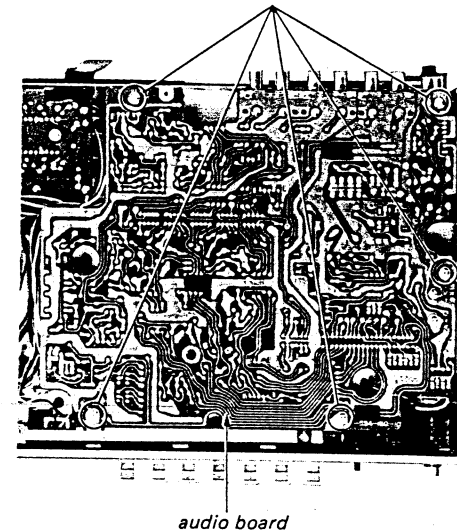
NOTE ON RADIO BOARD REPLACEMENT

- ① Turn the VC gear (A) fully counterclockwise.
- ② Turn the TUNING knob to place the dial pointer on the mark as shown on the right.
- ③ Install the radio board.



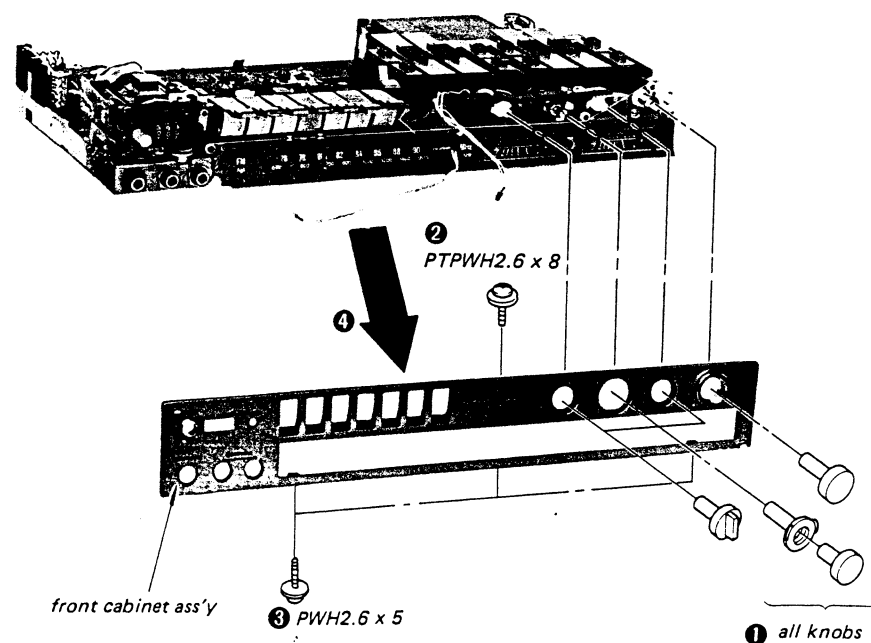
AUDIO BOARD REMOVAL

① PWH2.6 x 5



② Pull the connector off.

FRONT CABINET REMOVAL



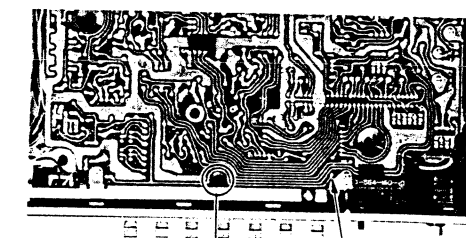
② PTPWH2.6 x 8

front cabinet ass'y

③ PWH2.6 x 5

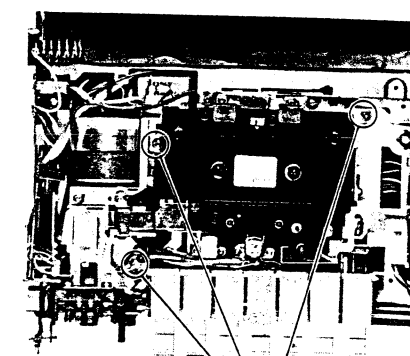
① all knobs

MECHANISM REMOVAL

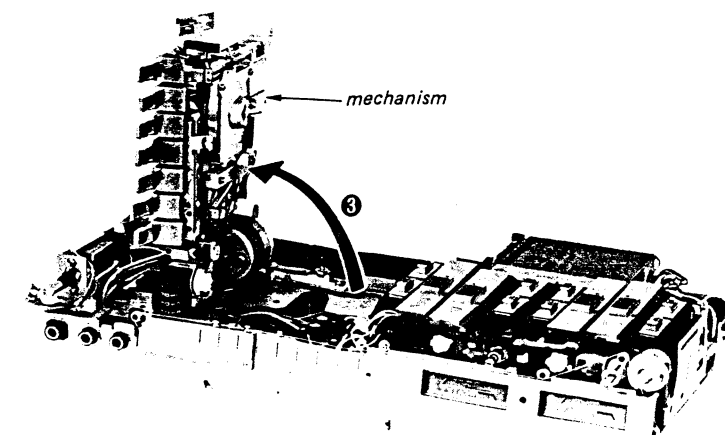


① PWH2.6 x 5

audio board



② PWH2.6 x 5



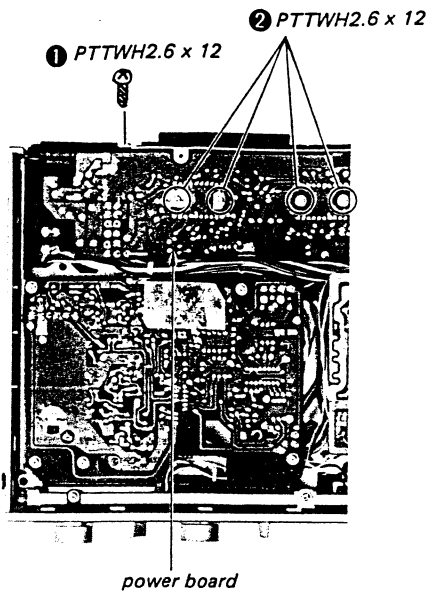
mechanism

DIAL CORD STRINGING

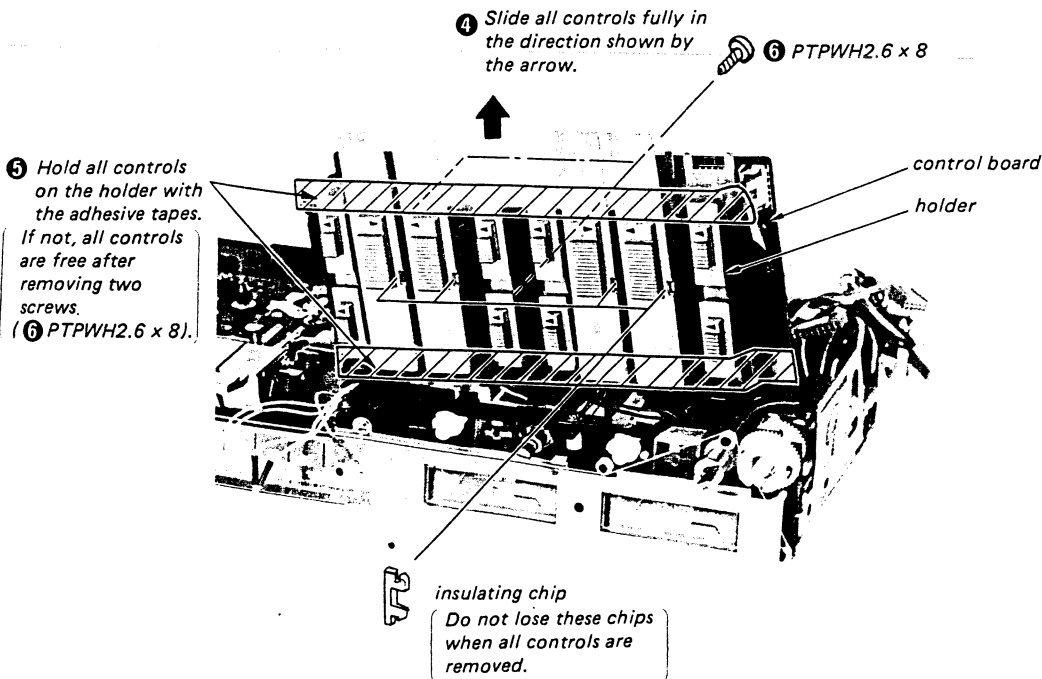
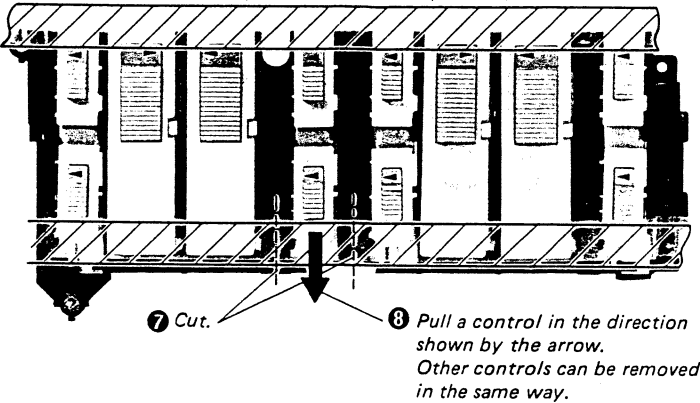
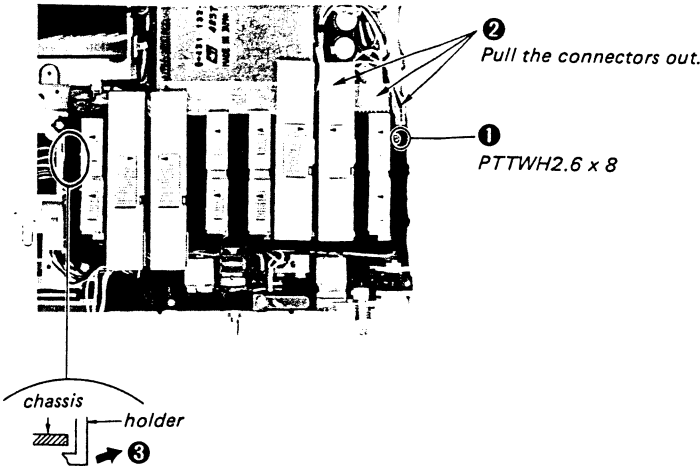
Refer to page 10

2
Pull the
factor off.

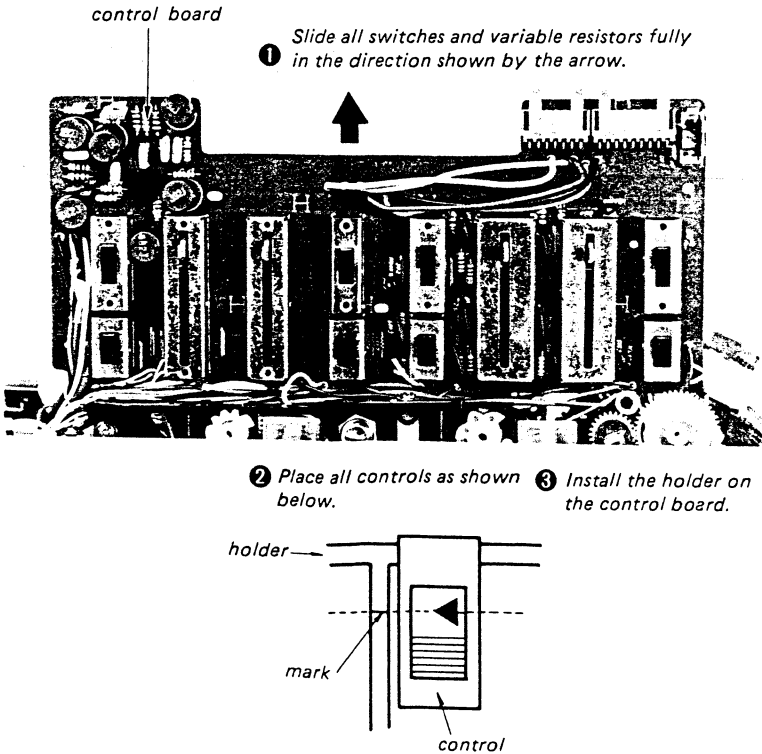
POWER BOARD REMOVAL



CONTROL REMOVAL



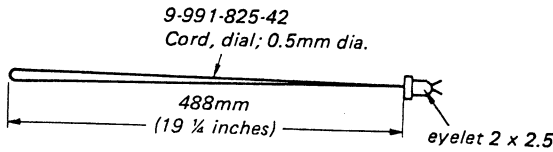
NOTE ON HOLDER INSTALLATION



SECTION 3
ADJUSTMENTS

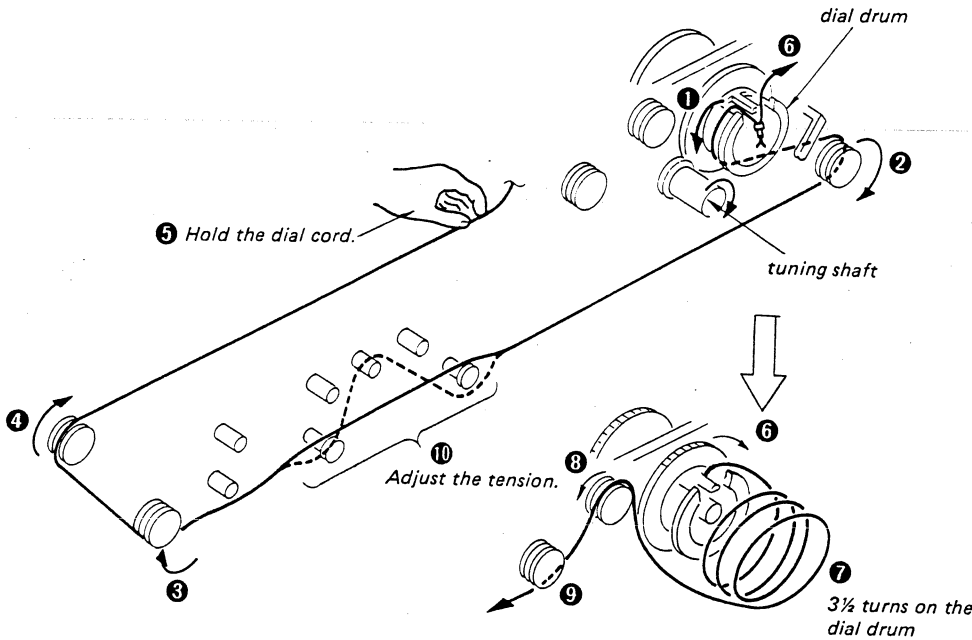
DIAL CORD STRINGING

1) Dial Cord Preparation



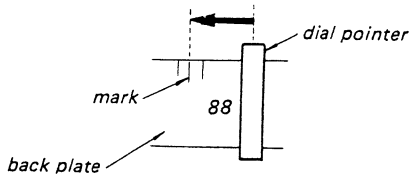
2) Dial Cord Stringing

- Set the dial drum at full-counterclockwise position.
- String the dial cord in the numerical order.



3) Dial Pointer Setting

- Turn the tuning shaft fully counterclockwise.
- Place the dial pointer on the mark.



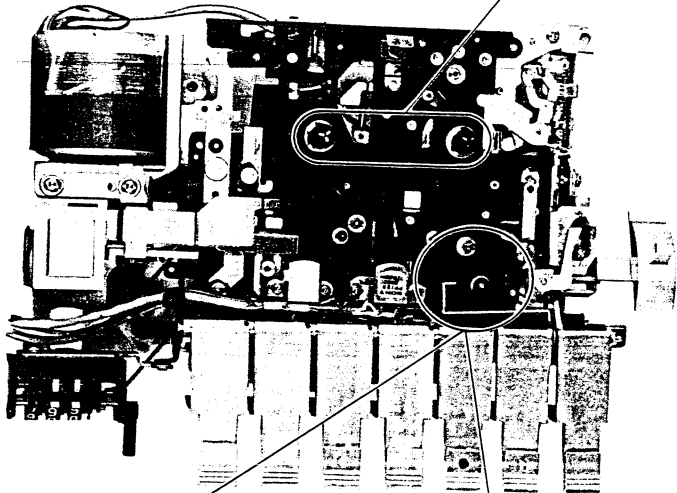
PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
record/playback head pinch roller
erase head rubber belts
capstan idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurements

	Torque meter	Torque
Playback	CQ-101A, CQ102A, CQ-103A	25 - 50 g·cm (0.35 - 0.69 oz·inch)
Fast Forward, Rewind	CQ-201A	Less than 55 g·cm (Less than 0.76 oz·inch)
Back-tension	CQ-101A, CQ102A, CQ-103A	Less than 8 g·cm (Less than 0.11 oz·inch)

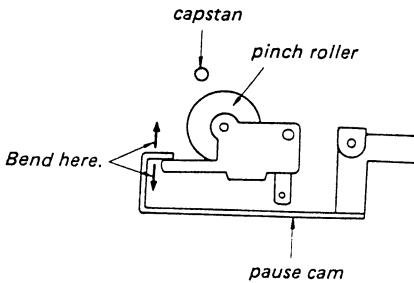
3-1. MECHANICAL
ADJUSTMENTS



Pause Timing Adjustment

— Playback Mode —

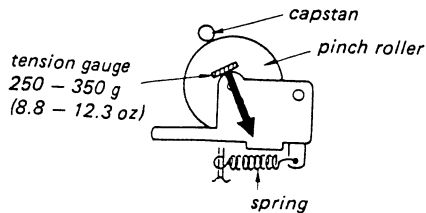
1. Press the pause button slowly.
2. Bend the pause cam so that the capstan and the pinch roller separate just after the take-up reel spindle stops rotating.

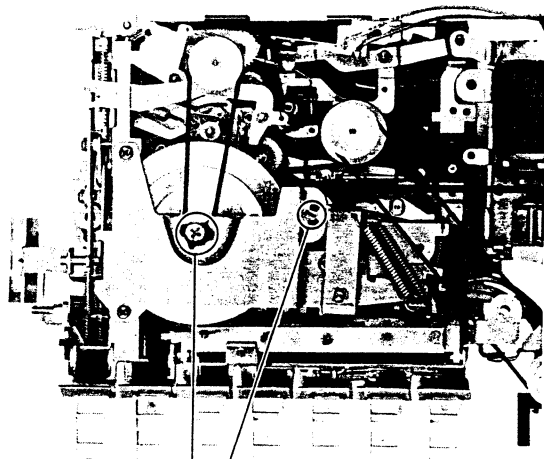


Pinch Roller Pressure Measurement

— Playback Mode —

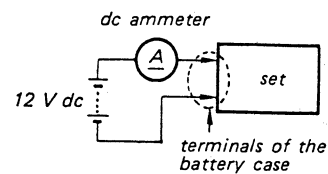
1. Push the tension gauge.
Slowly return the pinch roller and read the tension gauge just when the pinch roller starts to rotate.





Flywheel Thrust Play Adjustment

— Playback Mode —



1. Turn the thrust screws counterclockwise until the screw tips are detached from the shafts.
2. Gradually turn one thrust screw clockwise to the position where the motor current suddenly increases.
3. Then, turn the thrust screw counterclockwise about $\frac{1}{4}$ turn from the position obtained in step 2.
4. Adjust the other screw in the same way.

3-2. ELECTRICAL ADJUSTMENTS

Tape Recorder Section

Note: The adjustment should be performed in the order given in this service manual.
The adjustments should be performed for both L-CH and R-CH.

TAPE SELECT switch setting in accordance with tape used is as follows.

Tape	TAPE SELECT switch
CS-10	NORMAL
CS-20	CrO ₂
CS-30	Fe-Cr

Switches and controls should be set as follows unless otherwise specified.

FUNCTION switch: TAPE
TAPE SELECT switch: NORMAL
TIMER STANDBY switch: OFF
POWER SAVE switch: OFF
REC switch: AUTO
AFC/ISS switch: OFF

B+ Voltage Adjustment

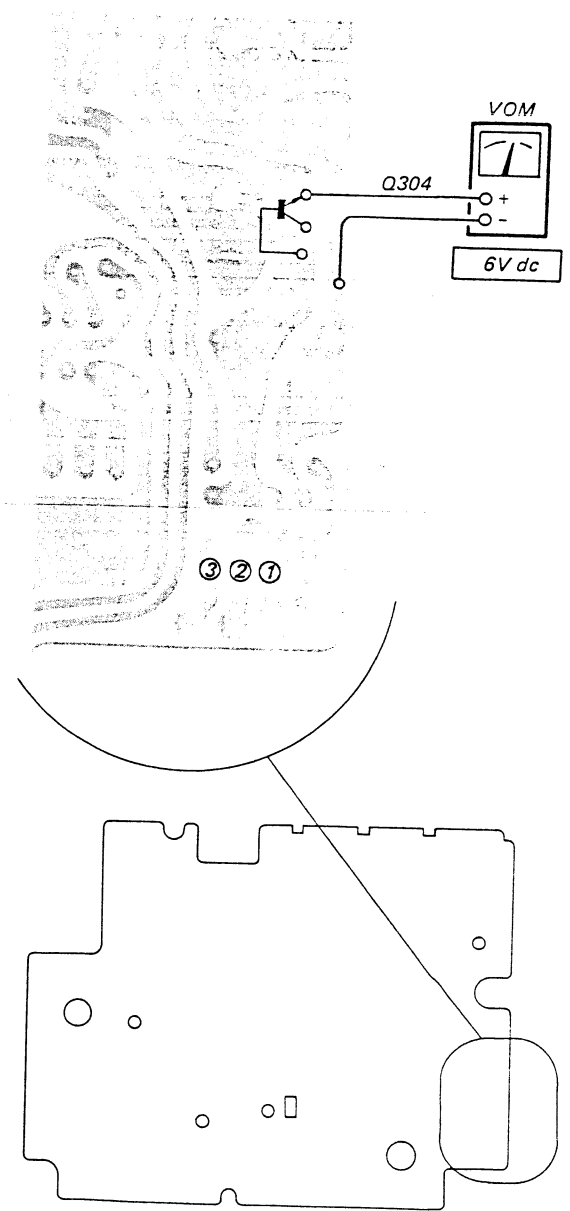
Procedure:

Mode: record (with no signal)

Adjustment Location and Specification:

— audio board —

Pattern connection	B+ voltage
1	low $\updownarrow$ high
2	
3	



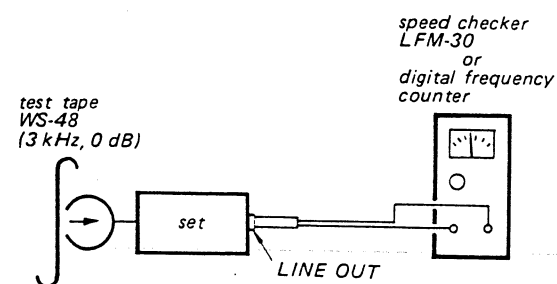
Tape Speed Adjustment

Setting:

VOLUME control: mechanical mid

Procedure:

Mode: playback



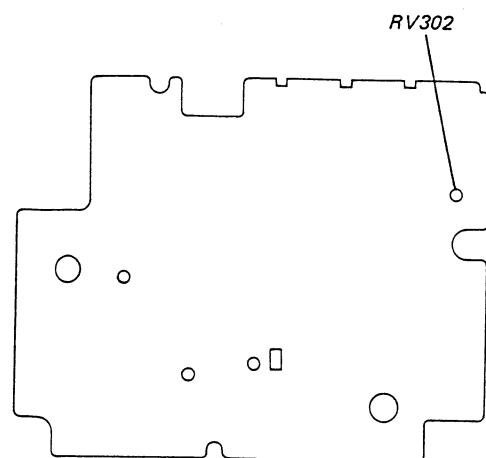
Specification:

Speed checker	Digital frequency counter
-2.5 to +3 %	2,925 - 3,090 Hz

Frequency difference between beginning and end of tape should be within 1 % (30 Hz).

Adjustment Location:

- audio board -



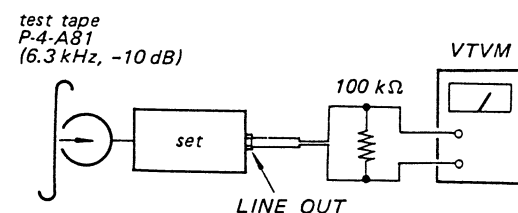
Record/playback Head Azimuth Adjustment

Setting:

VOLUME control: mechanical mid

Procedure:

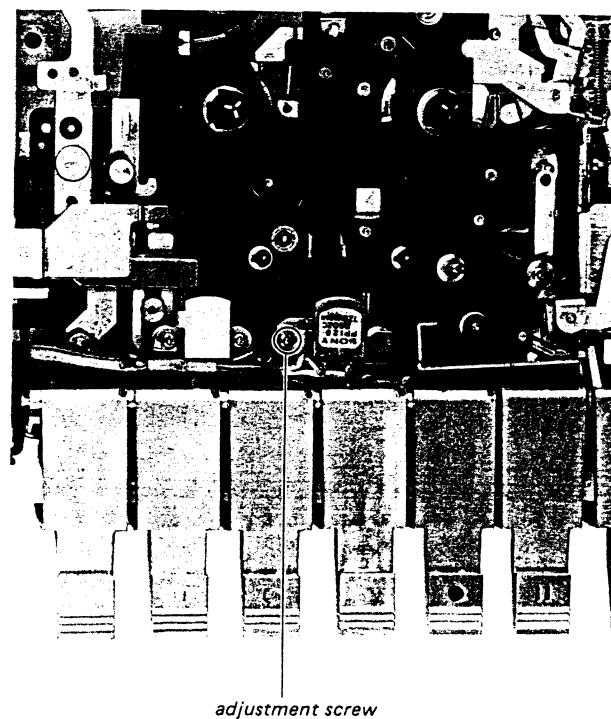
1. Mode: playback



2. Turn the adjustment screw for maximum VTVM reading.

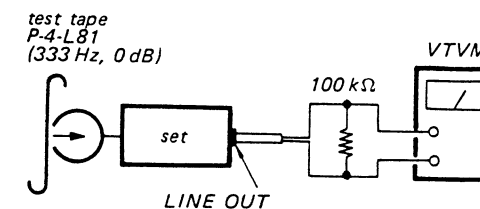
Note: Several peaks may appear, take the highest. Be sure to stop the adjustment screw when it is turned clockwise.

Adjustment Location:



Playback Level Adjustment

Procedure:



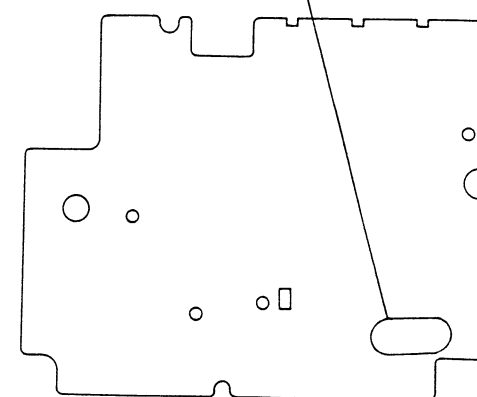
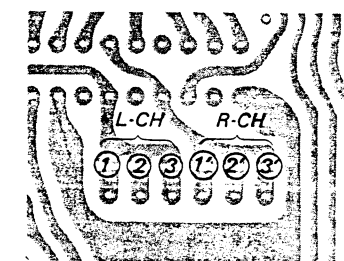
Specification:

LINE OUT level: 0.44 - 0.69 V
(-5 to -1 dB)
Level difference between channels:
less than 2 dB

Adjustment Location:

- audio board -

Pattern connection		LINE OUT level
L-CH	R-CH	
③	③'	high ↑ low
②	②'	
①	①'	
① and ②	①' and ②'	



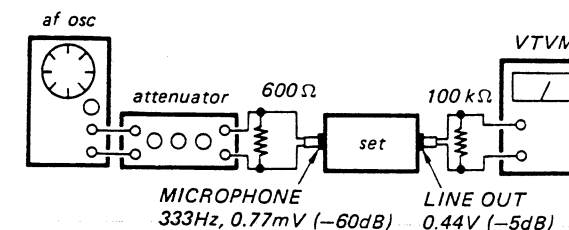
Level Meter Calibration

Setting:

METER SELECT switch: LEVEL
REC switch: MANUAL

Procedure:

1. Mode: record

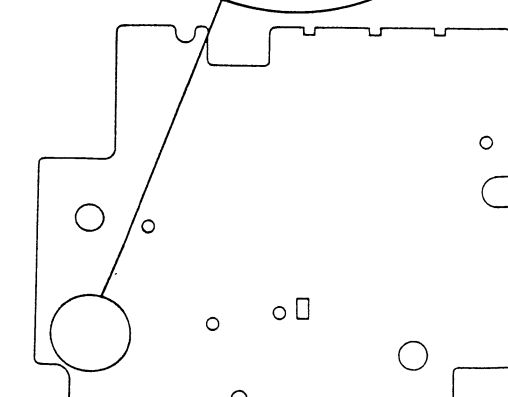
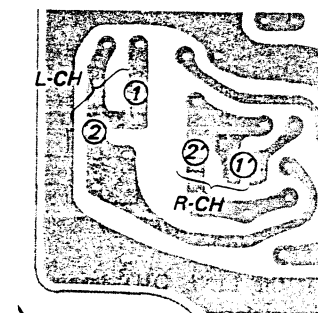


Adjust the REC LEVEL controls for 0.44 V VTVM readings.

Adjustment Location:

- audio board -

Pattern connection		Pointer deflection	LEVEL meter indication
L-CH	R-CH		
no	no	low	0VU
①	①'		
②	②'		
① and ②	①' and ②'		

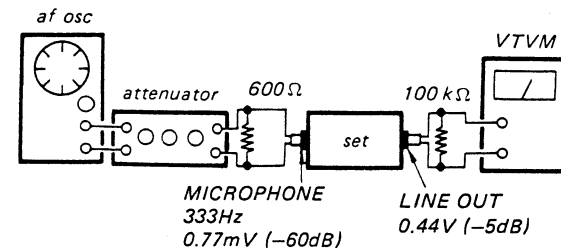


Record Bias Adjustment

Setting: REC switch: MANUAL

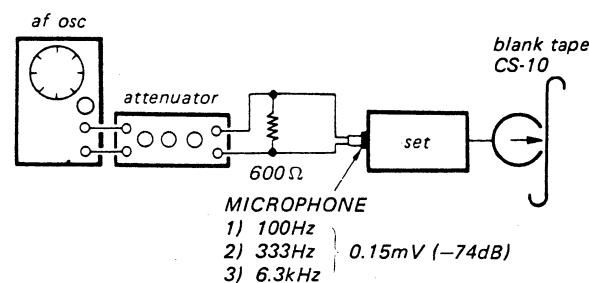
Procedure:

1. Mode: record

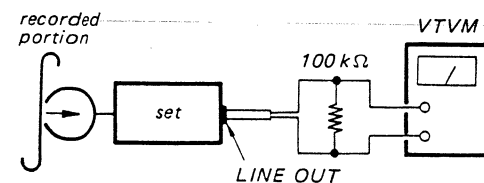


Adjust REC LEVEL controls for 0.44V VTVM readings.

2. Mode: record



3. Mode: playback



Confirm that the LINE OUT levels of 100Hz and 6.3kHz signals are -1.5 - +1.5dB relative to 333Hz signal.

If necessary, change the pattern connections and repeat the steps 2 and 3.

Adjustment Location:

- audio board -

Pattern connection		6.3kHz VTV reading
L-CH	R-CH	
④	④	up ↓ down
③	③	
②	②	
①	①	

Bias Trap Adjustment

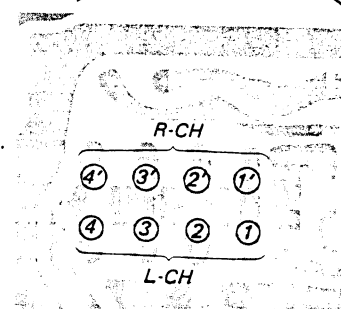
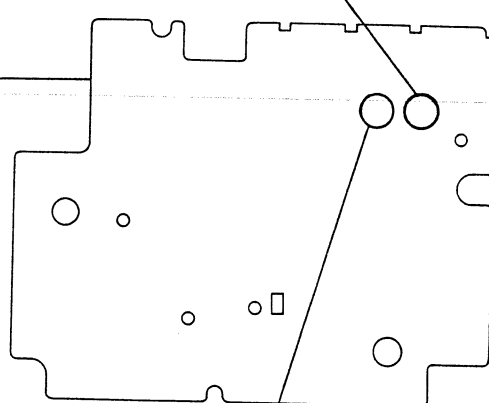
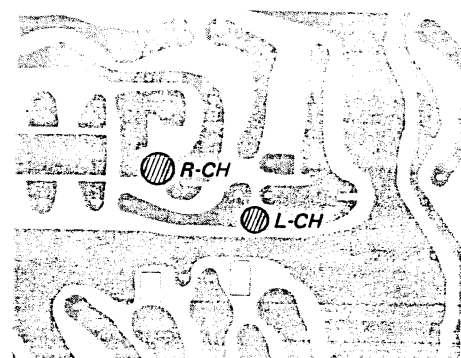
Procedure:

Mode: no signal record

Solder or unsolder the portion shown below so that the minimum LINE OUT level can be obtained when the AFC/ISS switch is turned on and off.

Adjustment Location:

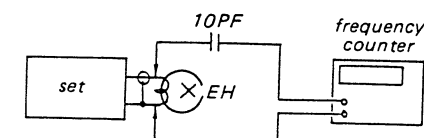
- audio board -



Bias Osc Frequency Adjustment

Procedure:

Mode: no signal record

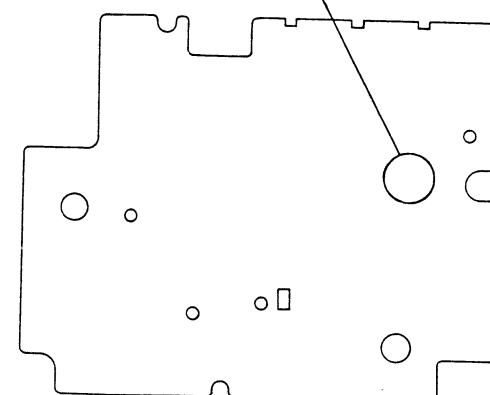
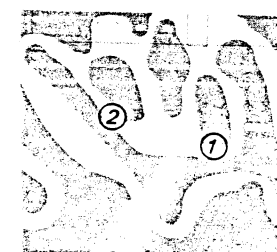


Specification:

AFC/ISS switch	Frequency counter reading
ON	79.1 - 84.9kHz
OFF	82.5 - 87.6kHz

Adjustment Location:

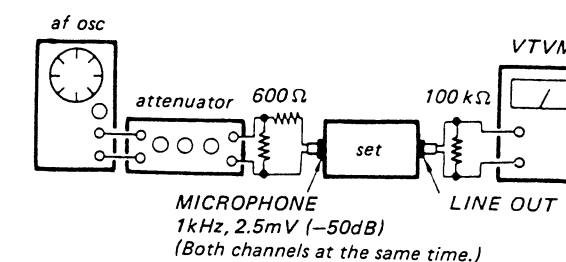
Pattern connection	Frequency counter reading
no	high ↑ low
①	
②	
① and ②	low



AGC Balance Adjustment

Procedure:

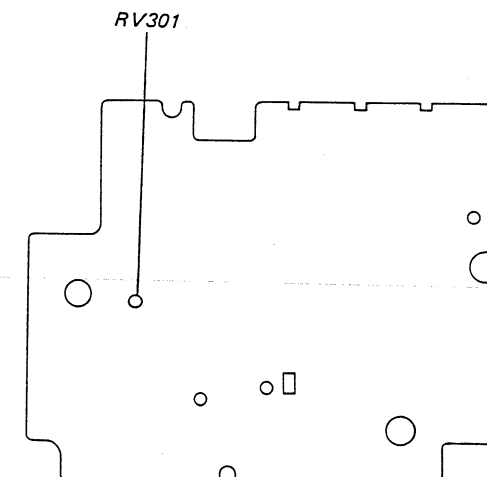
1. Mode: record



2. Adjust RV301 so that LINE OUT of L-CH becomes the same as that of R-CH.

Adjustment Location:

- audio board -



Battery Meter Calibration

Setting:

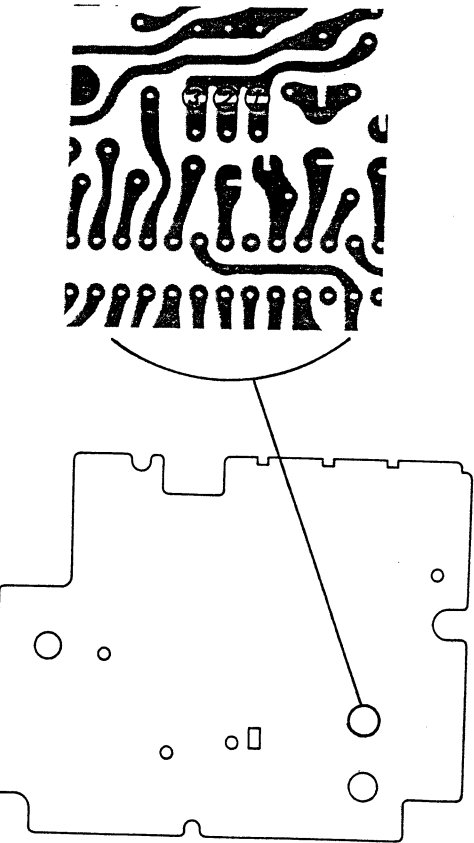
Power Supply Voltage: 8.8V dc
METER SELECT switch: TUNE/BATT

Procedure:

Mode: playback with no cassette loaded

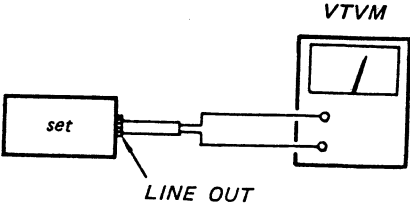
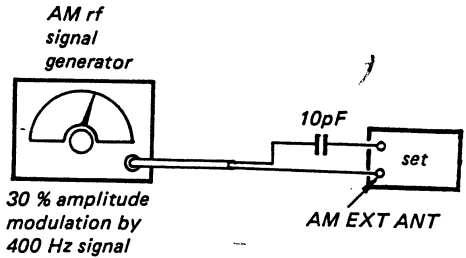
Adjustment Location and Specification:

Pattern connection	Pointer deflection	BATTERY meter indication
①		
②		
③		



RADIO SECTION

- AM Section -



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

Setting:

BAND SELECT switch: AM
FUNCTION switch: RADIO
SENS switch: EXT ANT

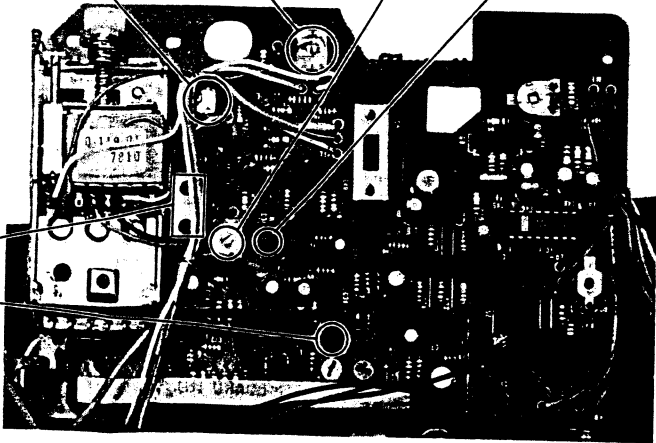
AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
620 kHz	
CT2	CT1

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
1,680 kHz	520 kHz
CT3	T4

- radio board -

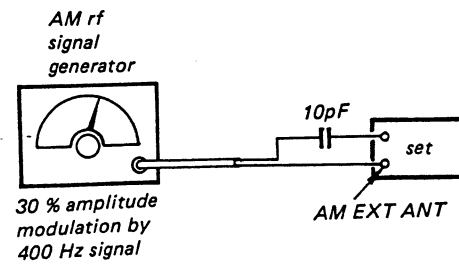
AM IF ALIGNMENT	
Adjust for a maximum reading on VTVM.	
455 kHz	T5
	T3

All T3 and T5 are factory-adjusted. It is not necessary to adjust T3 and T5 when replacing.



RADIO SECTION

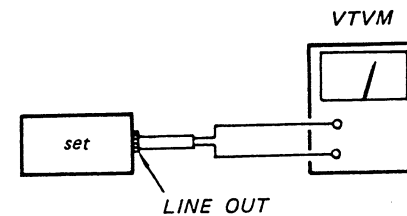
— AM Section —



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

Setting:

BAND SELECT switch: AM
FUNCTION switch: RADIO
SENS switch: EXT ANT

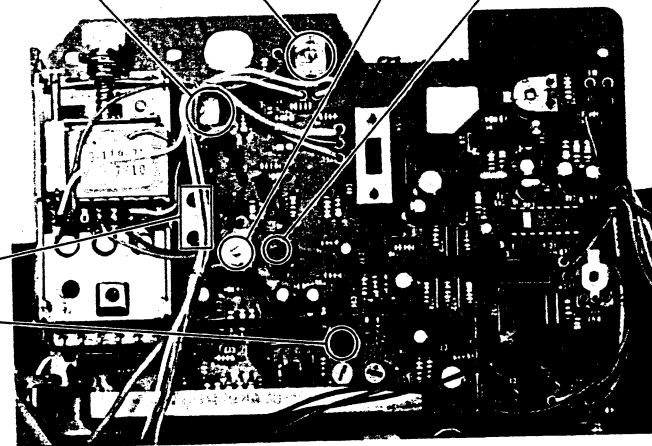


AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
620 kHz	
CT2	CT1

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
1,680 kHz	520 kHz
CT3	T4

AM IF ALIGNMENT	
Adjust for a maximum reading on VTVM.	
455 kHz	T5
	T3

All T3 and T5 are factory-adjusted. It is not necessary to adjust T3 and T5 when replacing.



— FM Section —

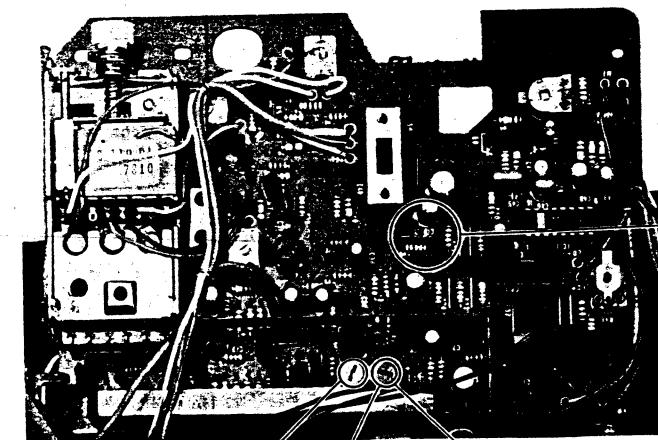
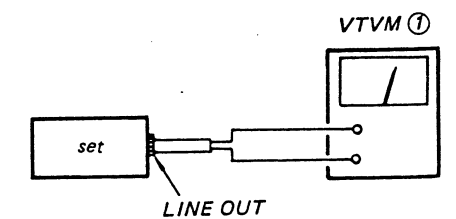
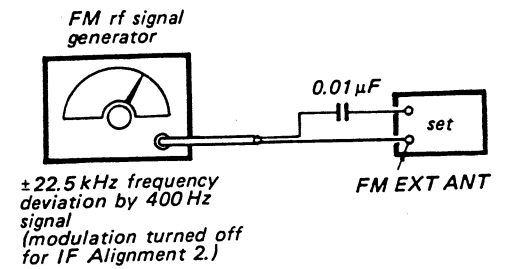
Note:

If the FM front-end is defective, be sure to replace the FM front-end (Part No. 1-463-256-00).

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

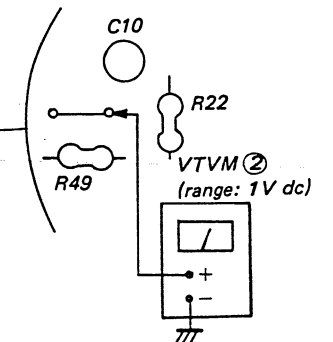
Setting:

BAND SELECT switch: FM
FUNCTION switch: RADIO
SENS switch: EXT ANT
AFC/ISS switch: OFF
MODE switch: STEREO

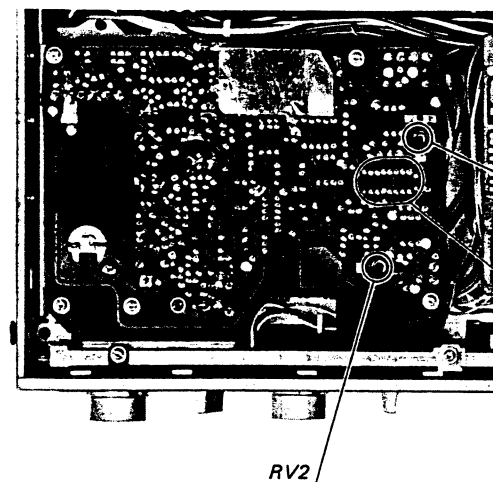


T1	T2
Adjust for a maximum reading on VTVM ①.	
FM IF ALIGNMENT 1 (10.7 MHz with modulation)	

T2
Adjust for 0V reading on VTVM ②.
FM IF ALIGNMENT 2 (10.7 MHz with no modulation)

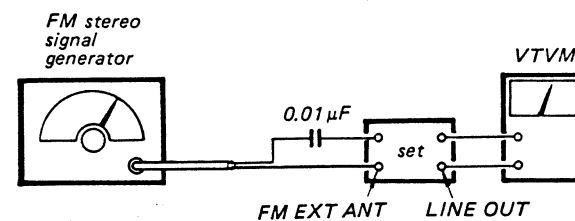


SECTION 4 DIAGRAMS



FM Stereo Separation Adjustment

Procedure:



Carrier frequency: 98 MHz
Output level: 1 mV (60 dB)
Mode: Stereo
Modulation:
Audio (400 Hz): 67.5 kHz deviation (90%)
Pilot (19 kHz): 7.5 kHz deviation (10%)

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	(A)
R-CH	L-CH	(B) Adjust RV2 for minimum reading.
R-CH	R-CH	(C)
L-CH	R-CH	(D) Adjust RV2 for minimum reading.

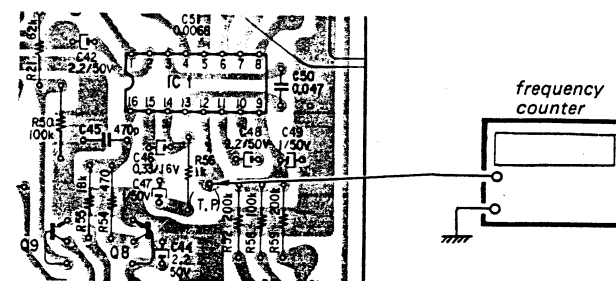
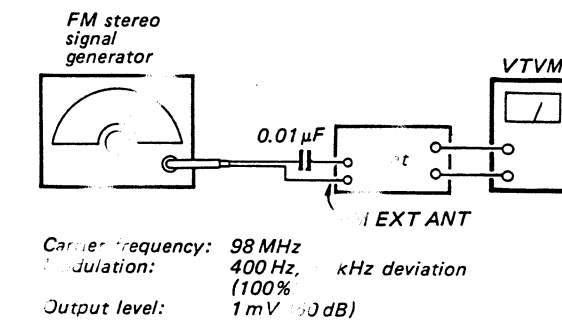
L-CH Stereo separation: (A) - (B)
R-CH Stereo separation: (C) - (D)

The difference between separations of both channels should be equal.

19 kHz Adjustment

A) Regular Method

Procedure:

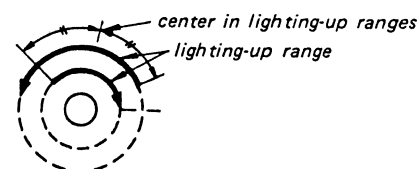


1. Tune the set to 98 MHz.
2. Adjust RV1 for 19 kHz $\pm$ 30 Hz on the counter.

B) Simple Method

Procedure:

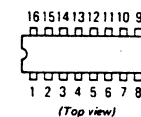
1. Tune the set to the FM stereo broadcasting signal.
2. Turn RV1 clockwise or counterclockwise and memorize the lighting-up range of stereo lamp.
3. Secure RV1 at the center in lighting-up range of both turns as shown below.



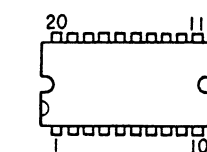
Replacement Semiconductors

For replacement, use semiconductors except in ().

IC1: HA11227



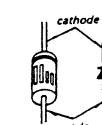
IC601, 701: TA7215P



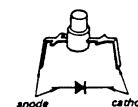
- D1, 2 : 1S1555 (1T40)
D101, 201 : 1S1555 (1T40)
D102, 202 : 1S1555 (1T40)
D302, 305 : 1S1555 (1T40)
D3, 4 : 1T22AM (1T22)
D104, 204 : 1T22AM (1T22)
D301 : 10E2
D304 : 10E2
D601 - 604 : 10E2



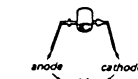
D303, 306: EQB01-08 (RD7.5E-C)



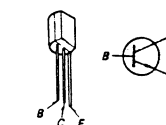
D901: SEL103R D903: SEL303E



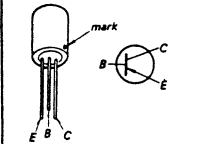
D902: SEL101R



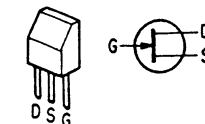
Q1 - 5, Q7: 2SC710



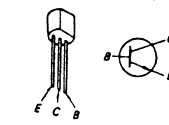
Q308: 2SB324 (2SB475)



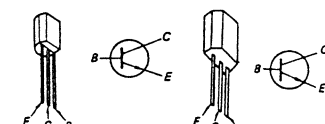
Q6: 2SK54B (2SK54)



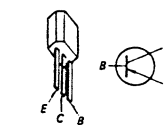
Q601: 2SC1474



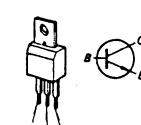
- Q8, 9 : 2SC1364 (2SC634A)
Q103, 203 : 2SC1364 (2SC634A)
Q104, 204 : 2SC1364 (2SC634A)
Q106 - 111 : 2SC1364 (2SC633A)
Q206 - 211 : 2SC1364 (2SC633A)
Q302, 303 : 2SC1364 (2SC633A)
Q306 : 2SC1364 (2SC633A)
Q101, 201 : 2SC1362 (2SC631A)
Q102, 202 : 2SC1362 (2SC631A)
Q105, 205 : 2SC1362 (2SC631A)



Q301, 305: 2SA1027R (2SA677)

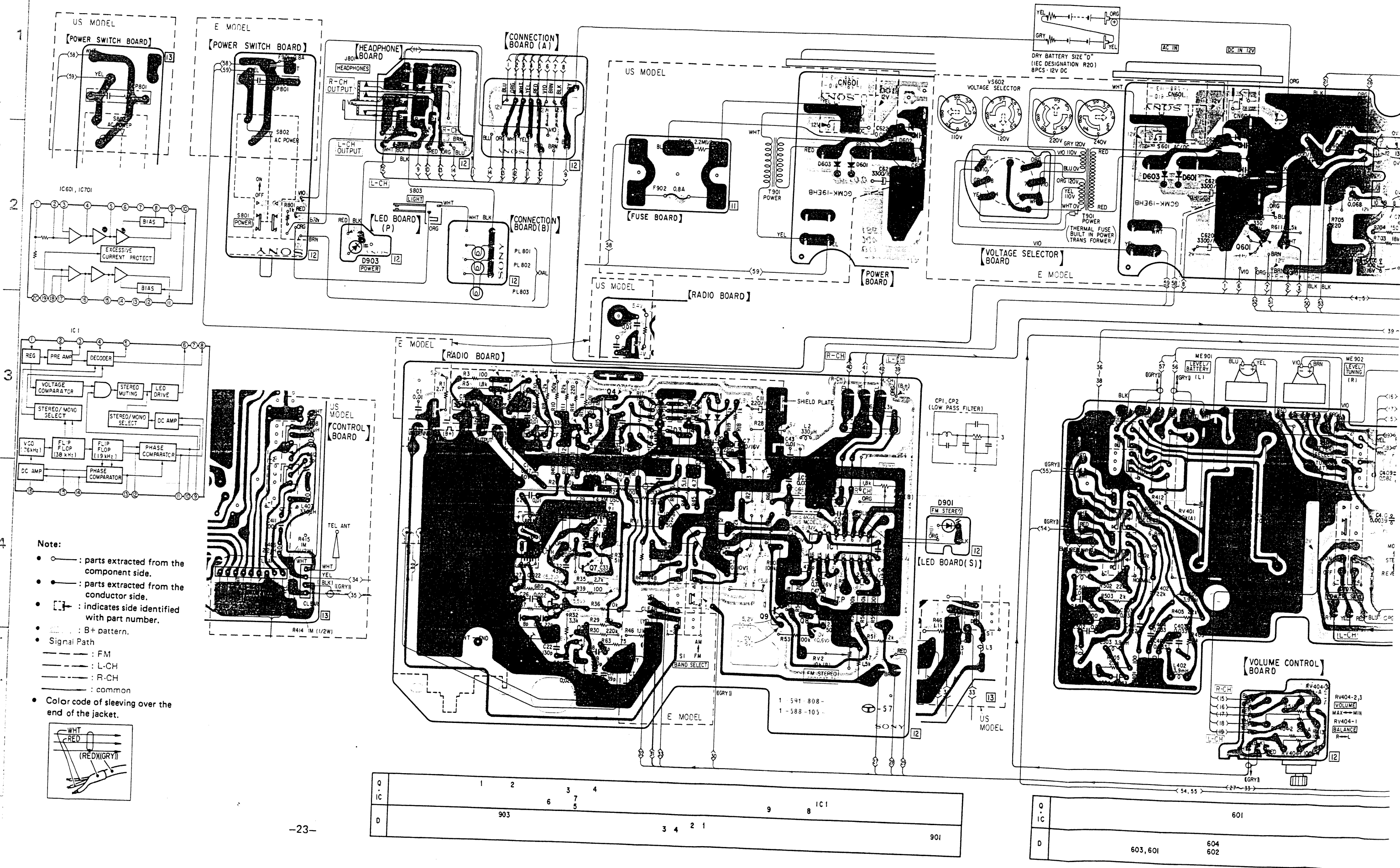


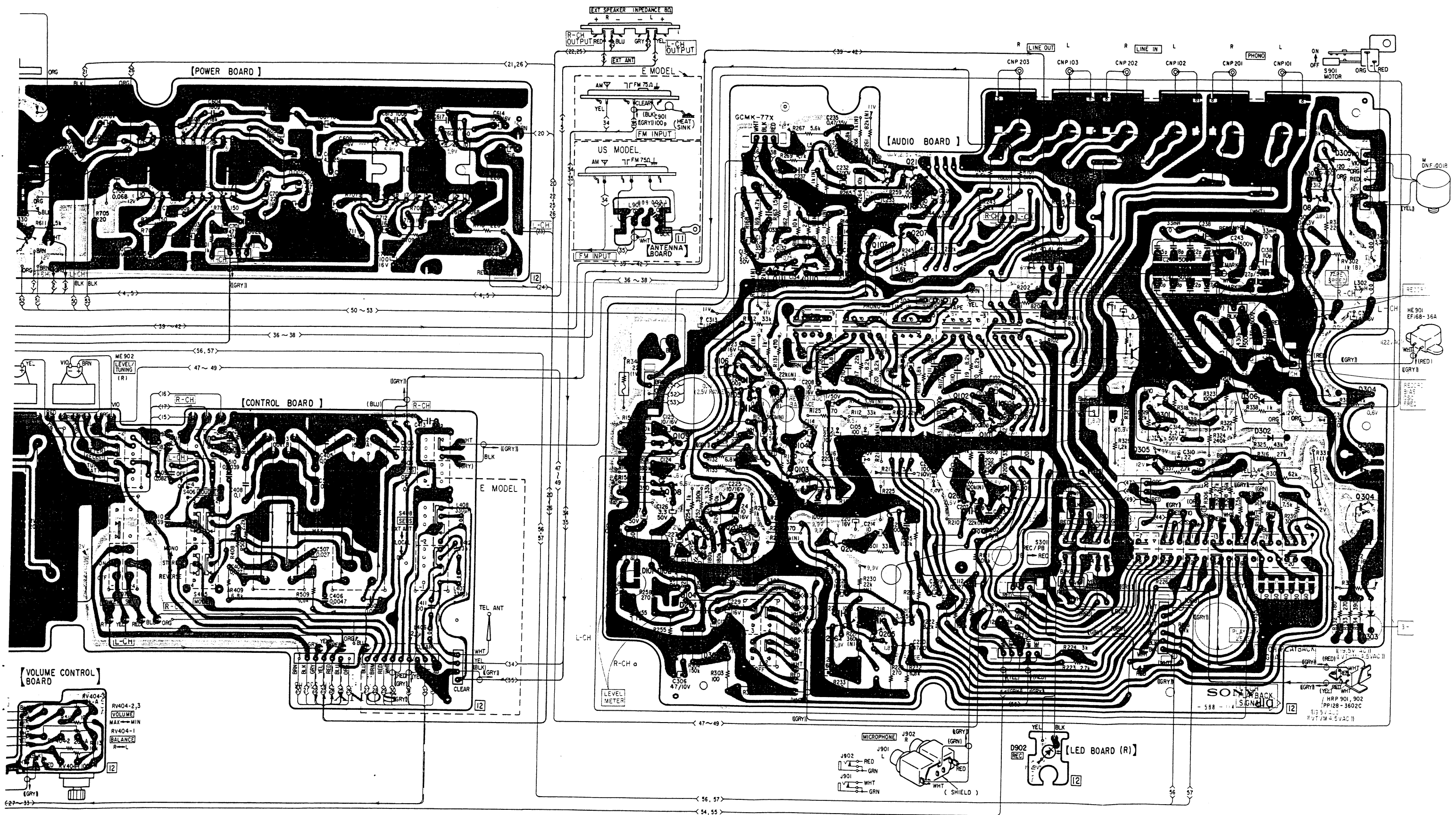
Q304, 307: 2SC1761



4-1. MOUNTING DIAGRAM

— Conductor Side —





601	IC 701	IC 601
-----	--------	--------

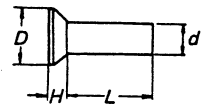
Q	109 108	209	106 208	105	111	110 104	103	204	206	107	211	207	210	102	101	202	201	301	303	302	308	306	307 304
D	101, 102	104 204 301	201	202																	306	305	304 303
														902							306 302		

SECTION 5

EXPLODED VIEWS

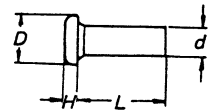
DIMENSIONS OF SCREWS

Flat-countersunk-head screw



Part No.	Description	d (mm)	L (mm)	H (mm)	D (mm)	Color
7-627-452-07	K 2 x 2	2	2	0.6	3	silver
7-627-452-18	K 2 x 3	2	3	0.6	3	silver

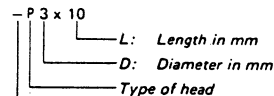
Pan-head screw



Part No.	Description	d (mm)	L (mm)	H (mm)	D (mm)	Color
7-627-553-18	P 2 x 2	2	2	0.6	3	black
7-627-553-27	P 2 x 2.5	2	2.5	0.6	3	silver
7-627-553-37	P 2 x 3	2	3	0.6	3	silver
7-627-553-47	P 2 x 4	2	4	0.6	3	silver

HARDWARE NOMENCLATURE

Screw:



Unless otherwise indicated, it means cross-recessed head (Phillips type).

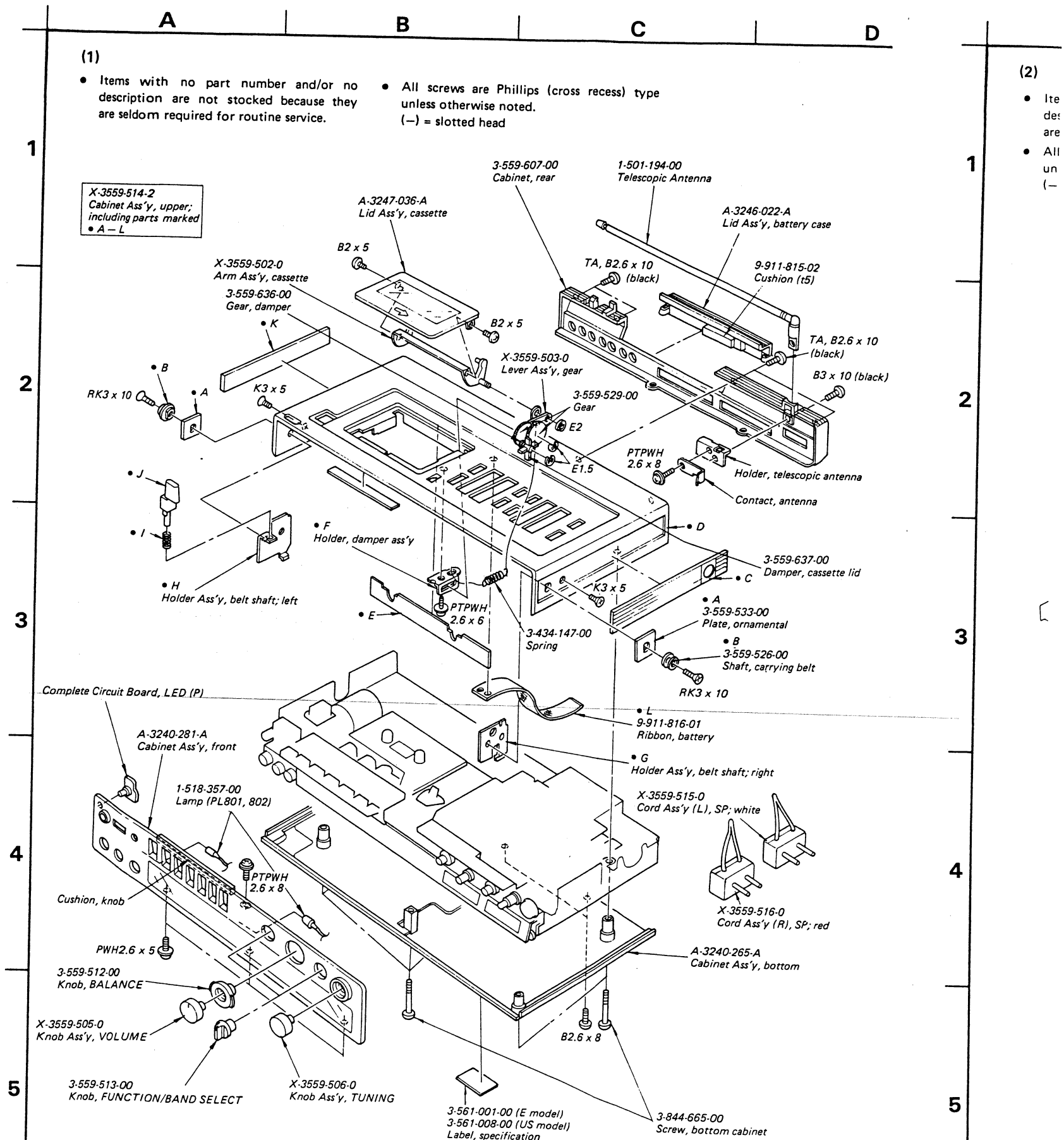
Nut, Washer, Retaining ring:



—Diameter of usable screw or shaft
—Reference designation

Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
* R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	



A

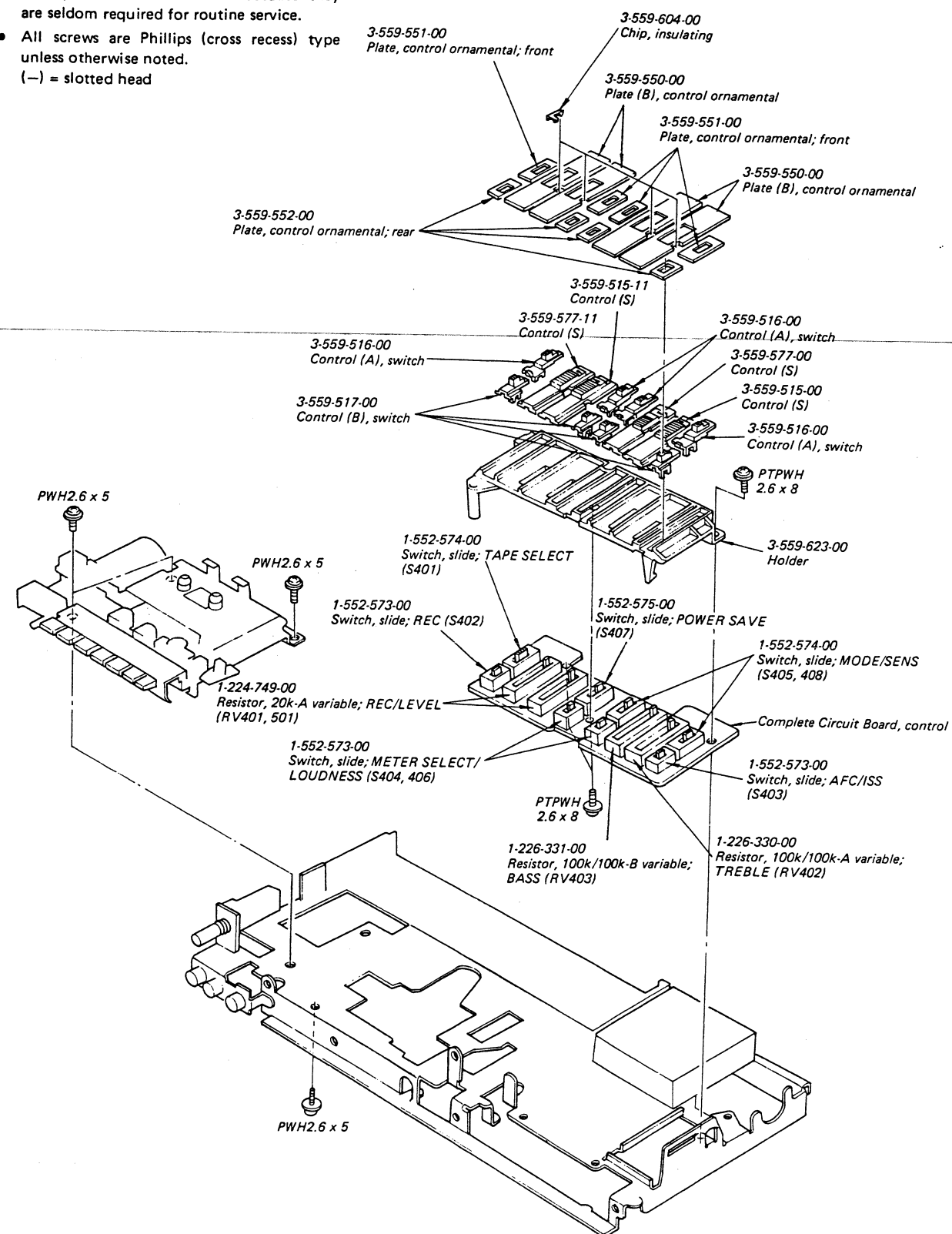
B

C

D

(2)

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head



(3)

u

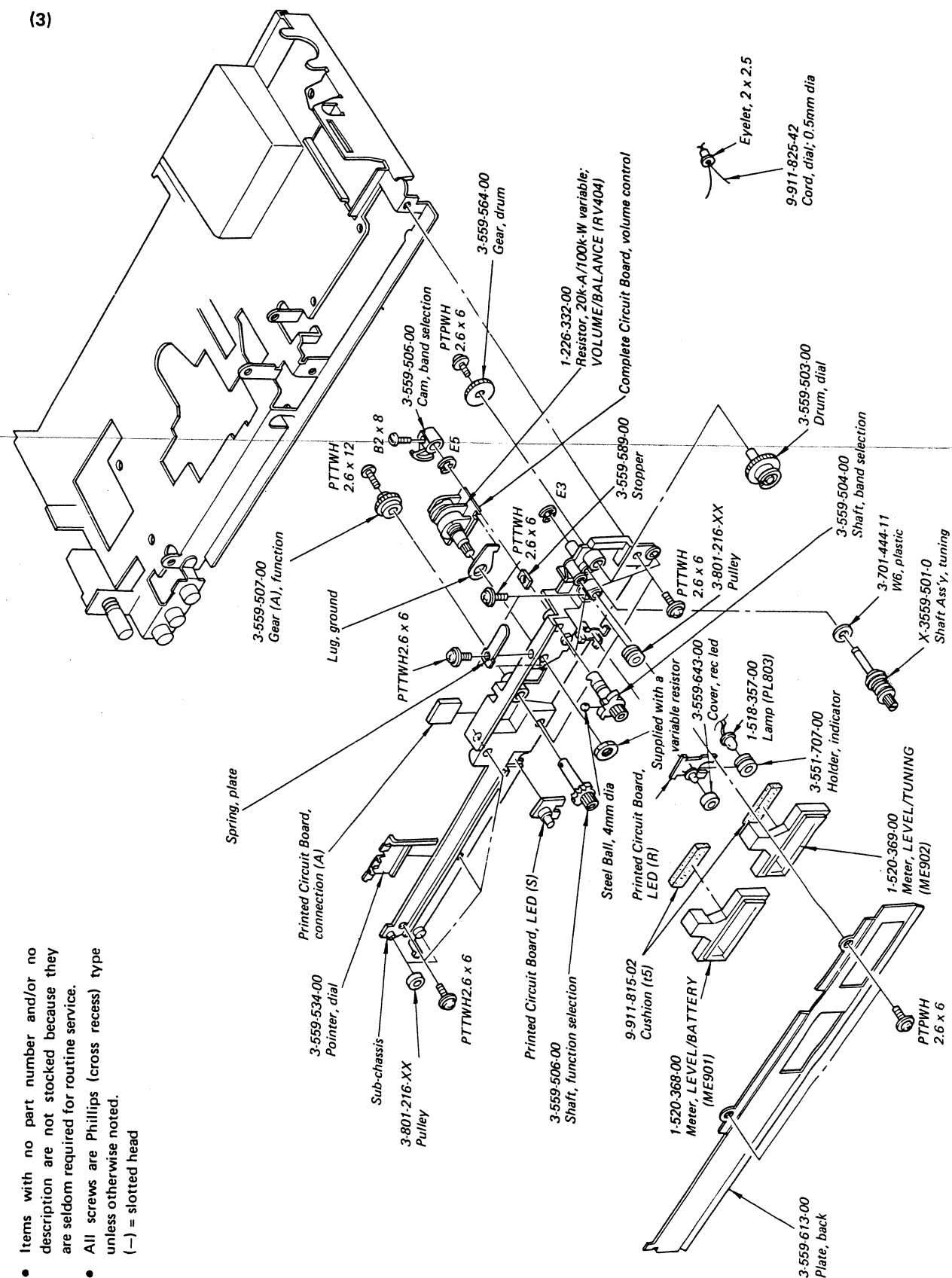
Q

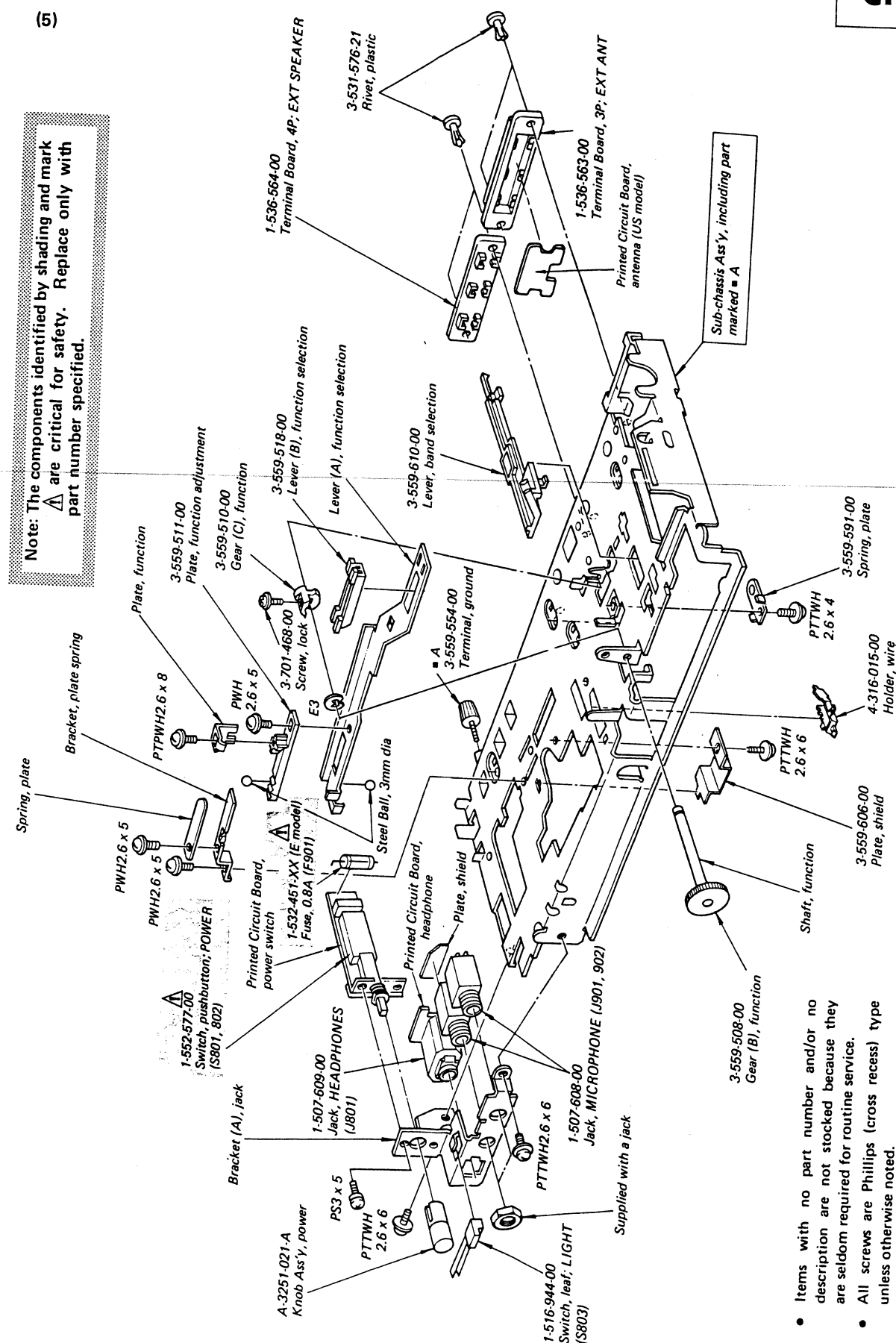
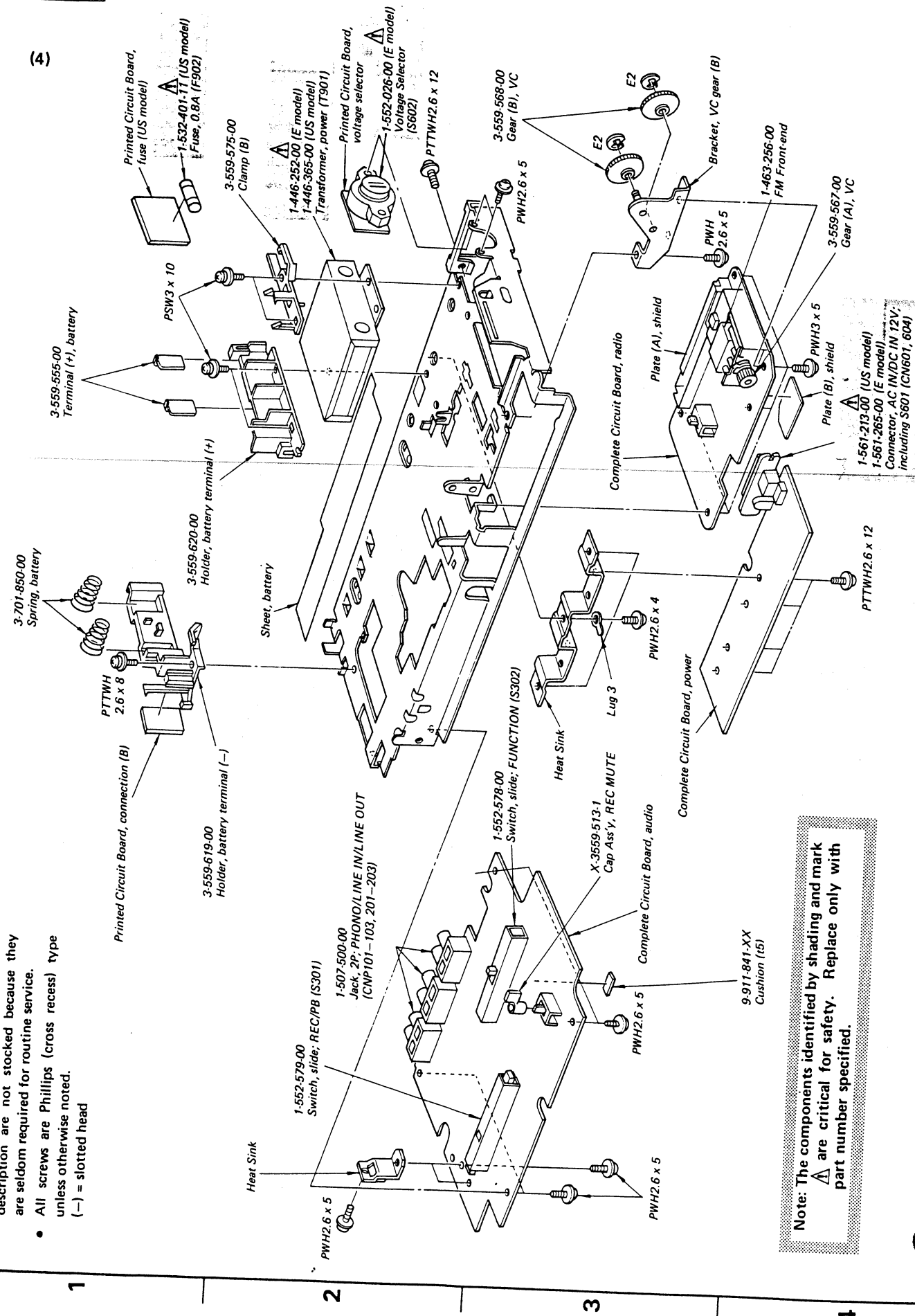
U

B

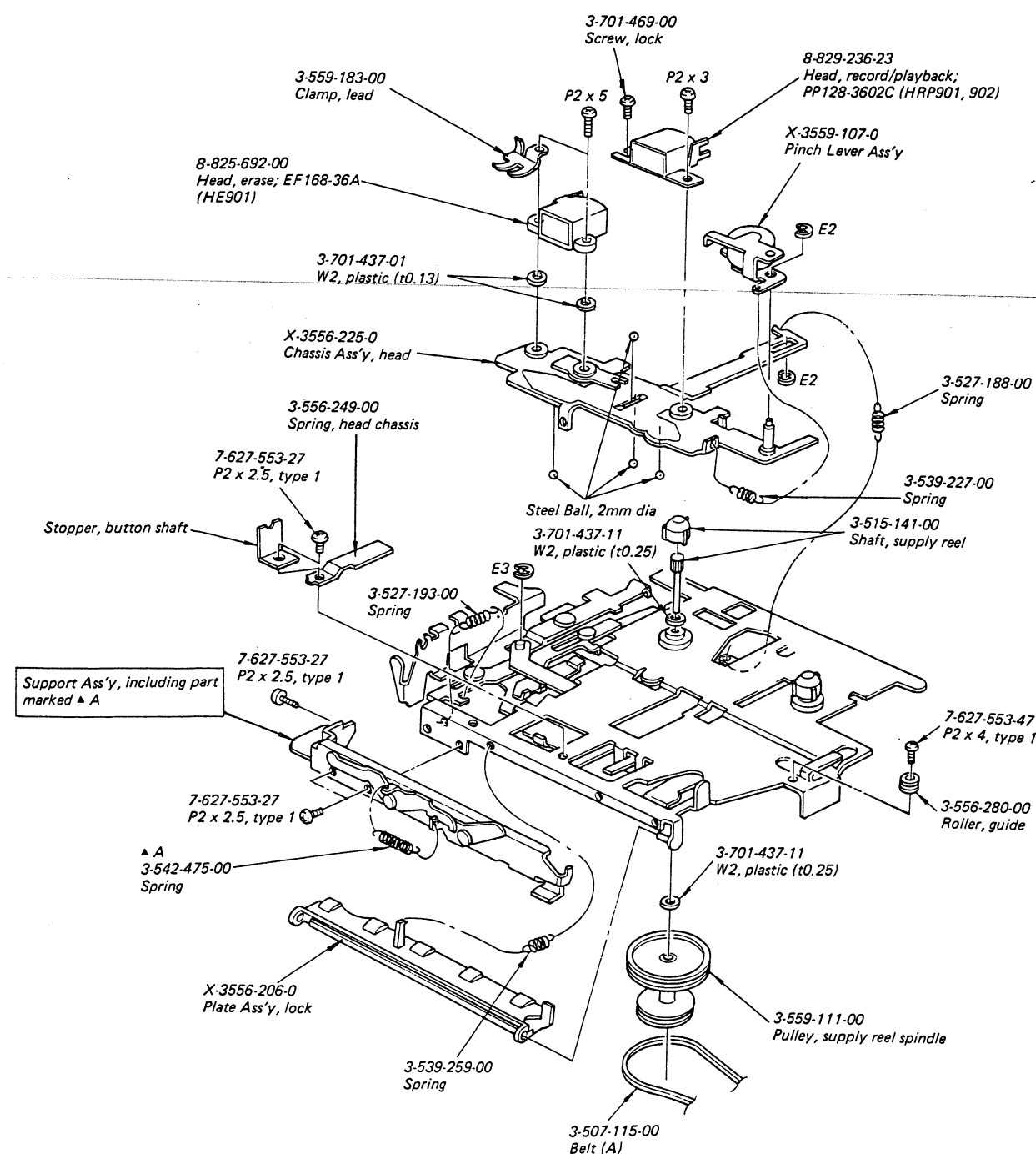
A

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head

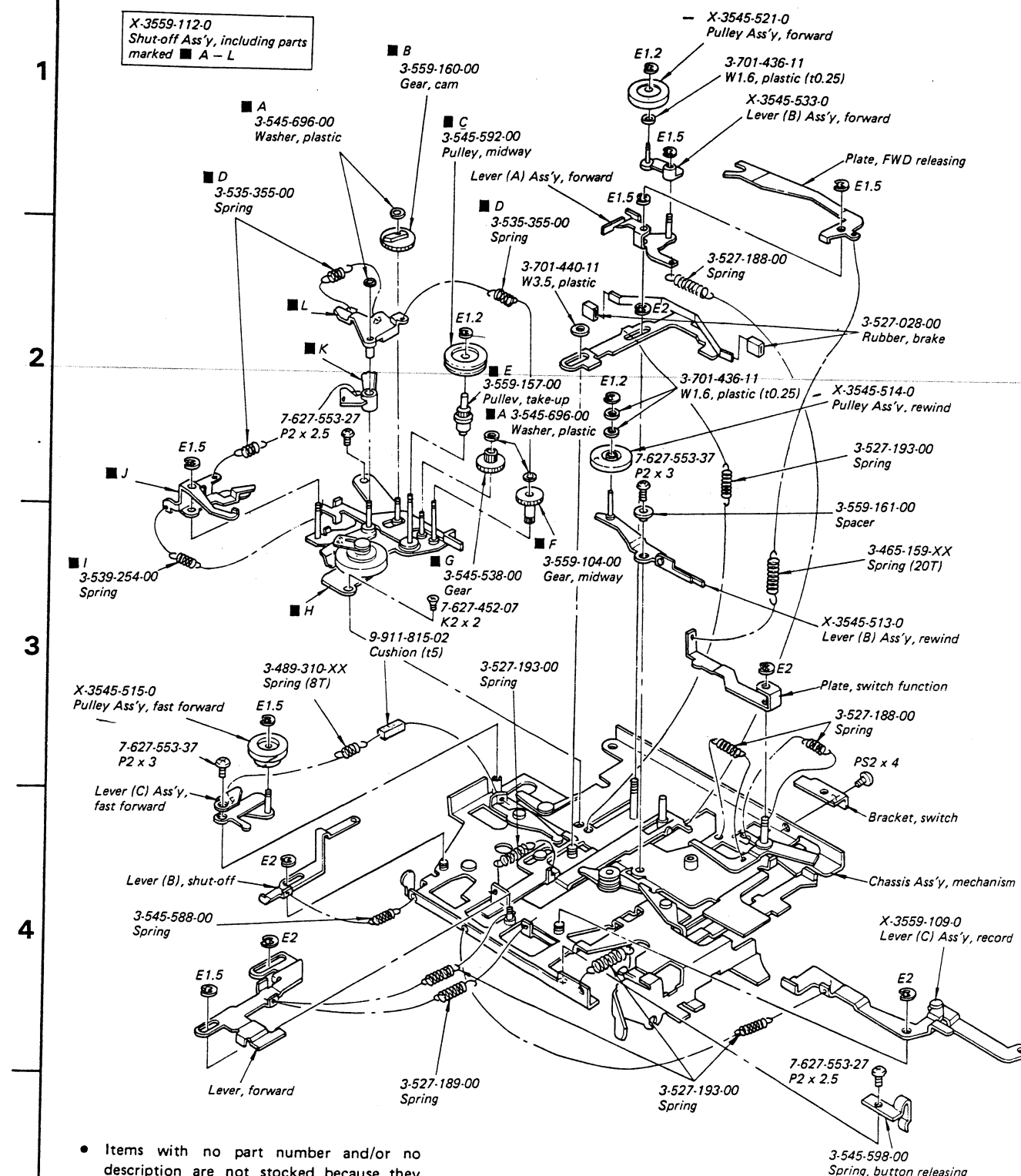




- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head



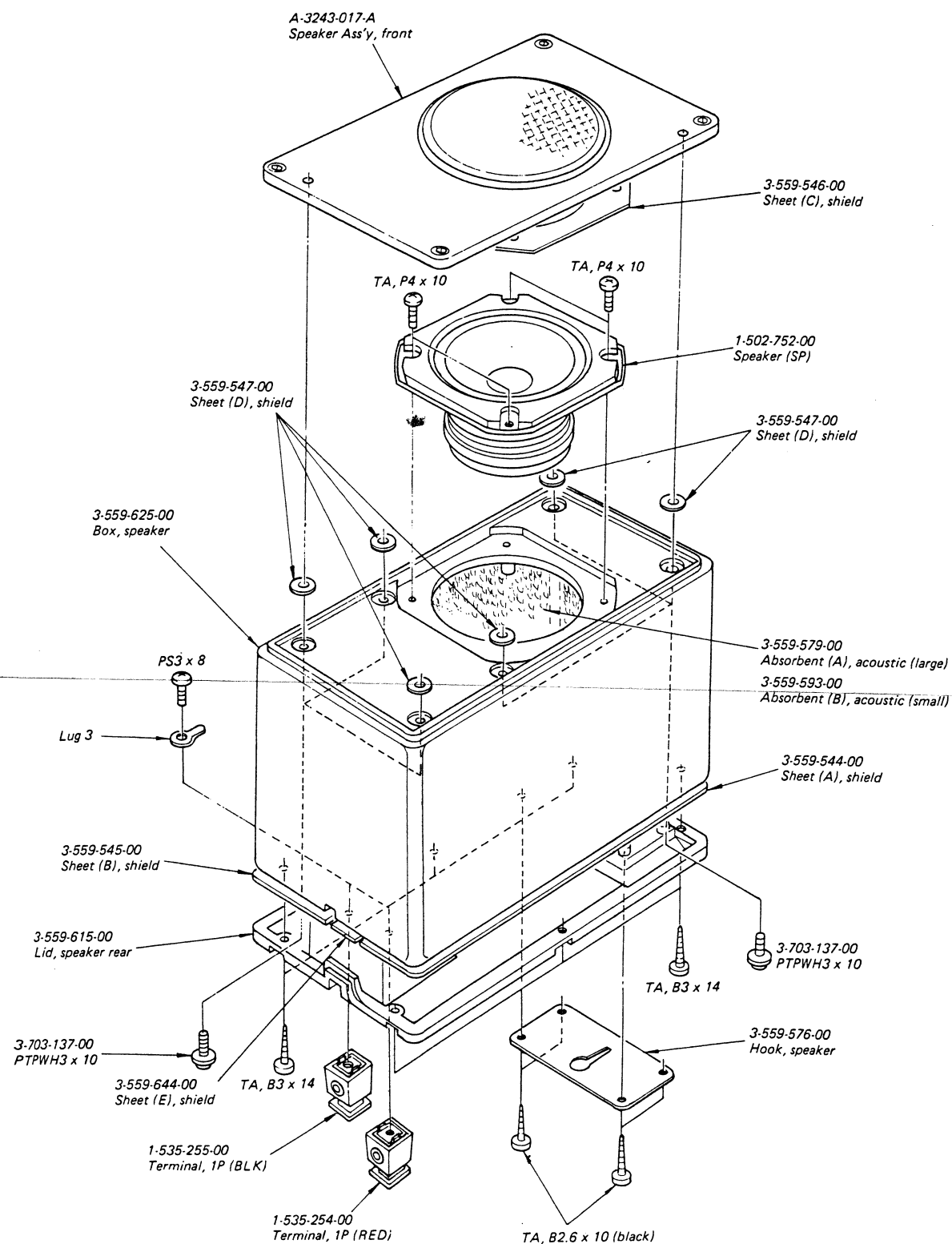
(9)



- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head
- (00T) shows the number of coils in spring.

(10)

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head



Ref. No.	Part No.	Description	
C134, 234	1-107-077-00	47p	50V silvered mica
C135, 235	1-131-345-00	0.47	35V tantalum
C136, 236	1-123-353-00	2.2	50V elect
C137, 237	1-161-045-00	0.0033	(semiconductor)
C138, 238	1-107-086-00	110p	silvered mica
C141, 241	1-107-253-00	15+18+22+27p	500V silvered mica
C142, 242	1-102-116-00	680p	
C143, 243	1-107-157-00	27p	500V silvered mica
C144, 244	1-161-011-00	0.0068	(semiconductor)
C301	1-107-200-00	430p	500V silvered mica
C302	1-107-181-00	330p	500V silvered mica
C303	1-107-188-00	620p	500V silvered mica
C304	1-129-900-00	0.001	630V film
C305	1-123-316-00	10	16V elect
C306	1-123-306-00	47	10V elect
C307	1-123-298-00	470	6.3V elect
C308	1-123-307-00	100	10V elect
C309	1-123-319-00	47	16V elect
C310	1-123-317-00	22	16V elect
C311	1-123-308-00	220	10V elect
C312	1-121-415-00	100	16V elect
C313	1-123-324-00	1000	16V elect
C314	1-123-353-00	2.2	50V elect
C401, 501	1-161-017-00	0.022	(semiconductor)
C402-404	1-161-019-00	0.033	(semiconductor)
C501-504	1-161-019-00	0.033	(semiconductor)
C405, 505	1-161-018-00	0.027	(semiconductor)
C406, 506	1-161-009-00	0.0047	(semiconductor)
C407, 507	1-161-018-00	0.027	(semiconductor)
C408, 508	1-161-025-00	0.1	(semiconductor)
C409, 509	1-161-024-00	0.082	(semiconductor)
C410, 510	1-161-008-00	0.0039	(semiconductor)
C411	1-102-973-00	100p	
C412	1-102-936-00	3p	
C413	1-102-975-00	100p	
C601, 701	1-123-328-00	4.7	25V elect
C602, 702	1-102-121-00	0.0022	
C603, 703	1-121-415-00	100	16V elect
C604, 704	1-107-085-00	100p	50V silvered mica
C605, 705	1-121-415-00	100	16V elect

Note: The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	
C606, 706	1-161-061-00	0.068	(semiconductor)
C607, 707	1-123-311-00	1000	10V elect
C608, 708	1-123-317-00	22	16V elect
C609, 709	1-123-319-00	47	16V elect
C610, 710	1-123-323-00	470	16V elect
C611, 711	1-123-328-00	4.7	25V elect
C612, 712	1-121-415-00	100	16V elect
C613, 713	1-107-085-00	100p	50V silvered mica
C614, 714	1-121-415-00	100	16V elect
C615, 715	1-161-061-00	0.068	(semiconductor)
C616, 716	1-123-311-00	1000	10V elect
C617, 717	1-161-025-00	0.1	(semiconductor)
C620, 621	1-123-326-00	3300	16V elect
C622-624	1-101-001-00	0.001	
C625	1-123-322-00	330	16V elect
C901	1-102-973-00	100p	(E model)
	1-101-923-00	0.01	(US model)

RESISTORS

All resistors are in ohms. Common 1/4W carbon resistors are omitted.
k Ω : 1000 Ω , M Ω : 1000k Ω

R302	1-210-825-00	3.3M	1/4W	composition
R331	1-213-036-00	1	1W	composition
	1-212-948-00	3.9	1/2W	composition
R340	1-213-068-00	22	1W	composition
R414, 415	1-244-945-00	1M	1/2W	(US model)
R612	1-202-723-00	2.2M	1/2W	
RV1	1-224-641-XX	470k-B, adjustable; 19kHz		
RV2	1-224-645-XX	10k-B, adjustable; FM STEREO SEPARATION		
RV301	1-224-648-99	100k-B, adjustable; RECORD AGC BALANCE		
RV302	1-224-642-XX	1k-B, adjustable; TAPE SPEED		
RV401, 501	1-224-749-00	20k-A, variable; REC LEVEL		
RV402	1-226-330-00	100k/100k-A, variable; TREBLE		
RV403	1-226-331-00	100k/100k-B, variable; BASS		
RV404	1-226-332-00	20k-A/100k-W, variable; VOLUME/BALANCE		

SECTION 6 ELECTRICAL PARTS LIST

Ref. No. Part No. Description

SEMICONDUCTORS

Transistors

Q1-5	8-729-671-13	2SC710
⇒ Q6	8-729-305-41	2SK54B
Q7	8-729-671-13	2SC710
⇒ Q8, 9	8-729-663-47	2SC1364
⇒ Q101, 201	8-729-665-47	2SC1362
⇒ Q102, 202		
⇒ Q103, 203		
⇒ Q104, 204		
⇒ Q105, 205	8-729-665-47	2SC1362
⇒ Q106-111	8-729-663-47	2SC1364
⇒ Q206-211		
⇒ Q301	8-729-612-77	2SA1027R
⇒ Q302, 303	8-729-663-47	2SC1364
Q304	8-763-113-00	2SC1761
⇒ Q305	8-729-612-77	2SA1027R
⇒ Q306	8-729-663-47	2SC1364
Q307	8-763-113-00	2SC1761
⇒ Q308	8-729-424-00	2SB324
Q601	8-760-335-10	2SC1474

ICs

IC1	8-759-312-27	HA11227
IC601, 701	8-759-272-15	TA7215P

Diodes

⇒ D1, 2	8-719-815-55	1S1555
⇒ D3, 4	8-719-422-21	1T22AM
⇒ D101, 201	8-719-815-55	1S1555
⇒ D102, 202		
⇒ D104, 204		
⇒ D301	8-719-422-21	1T22AM
⇒ D302	8-719-815-55	1S1555
⇒ D303	8-719-931-08	EQB01-08
D304	8-719-200-02	10E2
⇒ D305	8-719-815-55	1S1555

Ref. No. Part No. Description

⇒ D306	8-719-931-08	EQB01-08
D601-604	8-719-200-02	10E2
D901	8-719-301-03	SEL103R
D902	8-719-301-11	SEL101R
D903	8-719-303-03	SEL303E

Thermistor

Th1	1-800-071-XX	S-400
-----	--------------	-------

COILS

All coils are microinductors unless otherwise noted.

L1	1-407-186-XX	4.7μH
L2	1-407-175-XX	330μH
L101, 201	1-407-212-XX	33mH
L102, 202	1-407-181-XX	1.8μH
L301, 302	1-407-484-00	3.3μH
L401	1-407-502-00	6.8mH
L402, 403	1-407-201-XX	3.9mH
L406	1-407-182-XX	2.2μH
L407, 408	1-407-175-XX	330μH

L501	1-407-502-00	6.8mH
L502, 503	1-407-201-XX	3.9 mH

TRANSFORMERS

T1	1-403-952-00	FM Discriminator
T2	1-403-953-00	FM Discriminator
T3	1-404-041-00	AM IFT
T4	1-405-655-00	AM OSC
T5	1-403-144-00	AM IFT

T901	⚠ 1-446-252-00	Power (E model)
	1-446-365-00	Power (US model)

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No. Part No. Description

CAPACITORS

All capacitors are in μF and ceramic unless otherwise noted.
50WV or less are not indicated except for electrolytics.
pF : μμF, elect : electrolytic

C1-3	1-101-004-00	0.01		
C4	1-101-005-00	0.022		
C5	1-101-004-00	0.01		
C6	1-101-005-00	0.022		
C7	1-123-316-00	10	16V	elect
C8, 9	1-102-978-00	220p		
C10	1-123-306-00	47	10V	elect
C11	1-123-308-00	220	10V	elect
C12	1-123-307-00	100	10V	elect
C13	1-101-004-00	0.01		
C14	1-123-351-00	0.47	50V	elect
C17	1-102-965-00	39p		
C18	1-102-971-00	82p		
C19	1-102-112-00	330p		
C20	1-101-005-00	0.022		
C21	1-102-117-00	820p		
C22	1-101-081-00	130p		
C23	1-102-945-00	8p		
C24	1-102-959-00	22p		
C25	1-102-936-00	3p		
C26, 27	1-101-005-00	0.022		
C28	1-101-004-00	0.01		
C29	1-102-965-00	39p		
C30	1-161-173-00	0.001		(semiconductor)
C31	1-103-709-00	220p		polystyrol
C32	1-102-966-00	43p		
C33	1-101-005-00	0.022		
C34, 35	1-123-316-00	10	16V	elect
C36	1-123-353-00	2.2	50V	elect
C37	1-102-973-00	100p		
C38	1-161-013-00	0.01		(semiconductor)
C39	1-101-005-00	0.022		
C40	1-161-013-00	0.01		(semiconductor)
C41	1-123-295-00	100	6.3V	elect
C42	1-123-353-00	2.2	50V	elect
C43	1-101-004-00	0.01		

Ref. No. Part No. Description

C44	1-123-353-00	2.2	50V	elect
C45	1-130-014-00	470p		polyethylene
C46	1-131-409-00	0.33	16V	tantalum
C47	1-123-352-00	1	50V	elect
C48	1-123-353-00	2.2	50V	elect
C49	1-123-352-00	1	50V	elect
C50	1-161-021-00	0.047		(semiconductor)
C51, 52	1-161-011-00	0.0068		(semiconductor)
	1-161-014-00	0.012		(E model)
C53-55	1-101-923-00	0.01		(semiconductor)
				(US model)
C102, 202	1-123-354-00	3.3	50V	elect
C103, 203	1-107-085-00	100p		silvered mica
C104, 204	1-101-001-00	0.001		
C105, 205	1-123-307-00	100	10V	elect
C106, 206	1-123-316-11	10	16V	elect
C107, 207	1-107-085-00	100p		silvered mica
C108, 208	1-123-316-00	10	16V	elect
C109, 209	1-123-352-00	1	50V	elect
C110, 210	1-108-363-00	0.12		mylar
C111, 211	1-161-058-00	0.039		(semiconductor)
C112, 212	1-161-056-00	0.027		(semiconductor)
C113, 213	1-123-308-00	220	10V	elect
C114, 214	1-123-316-00	10	16V	elect
C115, 215	1-102-106-00	100p		
C116, 216	1-123-321-00	220	16V	elect
C117, 217	1-123-354-00	3.3	50V	elect
C118, 218	1-101-001-00	0.001		
C120, 220	1-123-306-00	47	10V	elect
C121, 221	1-123-295-00	100	6.3V	elect
C122, 222	1-107-085-00	100p		silvered mica
C123-125	1-123-316-00	10	16V	elect
C223-225				
C126, 226				
C127, 227	1-123-354-00	3.3	50V	elect
C128, 228	1-123-328-00	4.7	25V	elect
C129, 229	1-123-316-00	10	16V	elect
C130, 230	1-102-112-00	330p		
C131, 231	1-101-001-00	0.001		
C132, 232	1-123-306-00	47	10V	elect
C133, 233	1-123-328-00	4.7	25V	elect

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
SWITCHES		
S1	1-516-110-00	Slide, BAND SELECT
S301	1-552-579-00	Slide, REC/PB
S302	1-552-578-00	Slide, FUNCTION
S303	1-552-576-00	Lever Slide, REC MUTE
S401	1-552-574-00	Slide, TAPE SELECT
S402-404	1-552-573-00	Slide, REC, AFC/ISS, METER SELECT
S405	1-552-574-00	Slide, MODE
S406	1-552-573-00	Slide, LOUDNESS
S407	1-552-575-00	Slide, POWER SAVE
S408	1-552-574-00	Slide, SENS
S601		Included in CN601, 604
S602	△1-552-026-00	Voltage Selector (E model)
S801, 802	△1-552-577-00	Pushbutton, POWER, AC POWER
S803	1-516-944-00	Leaf, LIGHT
S901	1-516-853-XX	Leaf, motor
MISCELLANEOUS		
CF1, 2	1-527-264-00	Filter, ceramic; 10.7MHz
CN601, 604	△1-561-265-00	Connector, AC IN/DC IN 12V; including S601 (E model)
	△1-561-213-00	Connector, AC IN/DC IN 12V; including S601 (US model)
CNP101-103 CNP201-203	1-507-500-00	Jack, 2p; PHONO/LINE IN/LINE OUT
CP1, 2	1-231-303-00	Filter, low-pass
CP301	1-464-025-00	Bias Osc Unit
CP801	△1-231-326-11	Encapsulated Component
F901	△1-532-451-XX	Fuse, 0.8A (E model)
F902	△1-532-401-11	Fuse, 0.8A (US model)
HE901	8-825-692-00	Head, erase; EF168-36A
HRP901,902	8-829-236-23	Head, record/playback; PP128-3602C
J801	1-507-609-00	Jack, HEADPHONES
J901, 902	1-507-608-00	Jack, MICROPHONE
M	8-835-006-00	Motor, DNF-1001B
ME901	1-520-368-00	Meter, LEVEL/BATTERY
ME902	1-520-369-00	Meter, LEVEL/TUNING
PL801-803	1-518-357-00	Lamp
SP	1-502-752-00	Speaker

Note: The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
	1-463-256-00	FM Front-end
	1-501-194-00	Telescopic Antenna
	1-535-254-00	Terminal, 1P (RED)
	1-535-255-00	Terminal, 1P (BLK)
	1-536-563-00	Terminal Board, 3P; EXT ANT
	1-536-564-00	Terminal Board, 4P; EXT SPEAKER

ACCESSORIES AND PACKING MATERIALS

<u>Part No.</u>	<u>Description</u>
X-3559-515-0	Cord Ass'y, SP (L)
X-3559-516-0	Cord Ass'y, SP (R)
1-506-389-00	Connector, external antenna
△1-551-504-00	Cord, power (DK-35A) (US model)
△1-552-521-00	Cord, power (DK-52) (E model)
2-257-604-00	Spacer
2-257-605-00	Case, cassette
2-257-606-00	Case, carrying
2-257-607-00	Plate, partition
2-257-608-00	Plate, bottom
3-532-616-00	Bag, polyethylene
3-533-950-00	Strap, shoulder
3-544-147-00	Bag, polyethylene
3-559-631-00	Cushion, for speaker
3-559-632-00	Cushion, right
3-559-633-00	Cushion, left
3-559-634-00	Spacer
3-599-642-00	Spacer
3-559-649-00	Sheet, protection
3-561-002-00	Carton
3-561-003-00	Protector, carrying
3-561-004-00	Spacer, main
3-701-623-00	Bag, polyethylene
3-701-630-00	Bag, polyethylene
3-701-684-11	Card, indicating
3-770-681-21	Manual, instruction (US model)
3-770-610-51	Manual, instruction; English/French/Spanish (E model)
3-793-828-11	Card, cassette caution
3-794-233-21	Leaflet (US model)
3-794-348-51	Manual, instruction; Korean (E model)
3-794-349-51	Manual, instruction; Arabic (E model)
4-850-411-00	Bag, protection
8-893-511-00	Tape, demonstration; CD-806

Sony Corporation

9-954-716-02

© 1979

79C0438-1
Printed in Japan